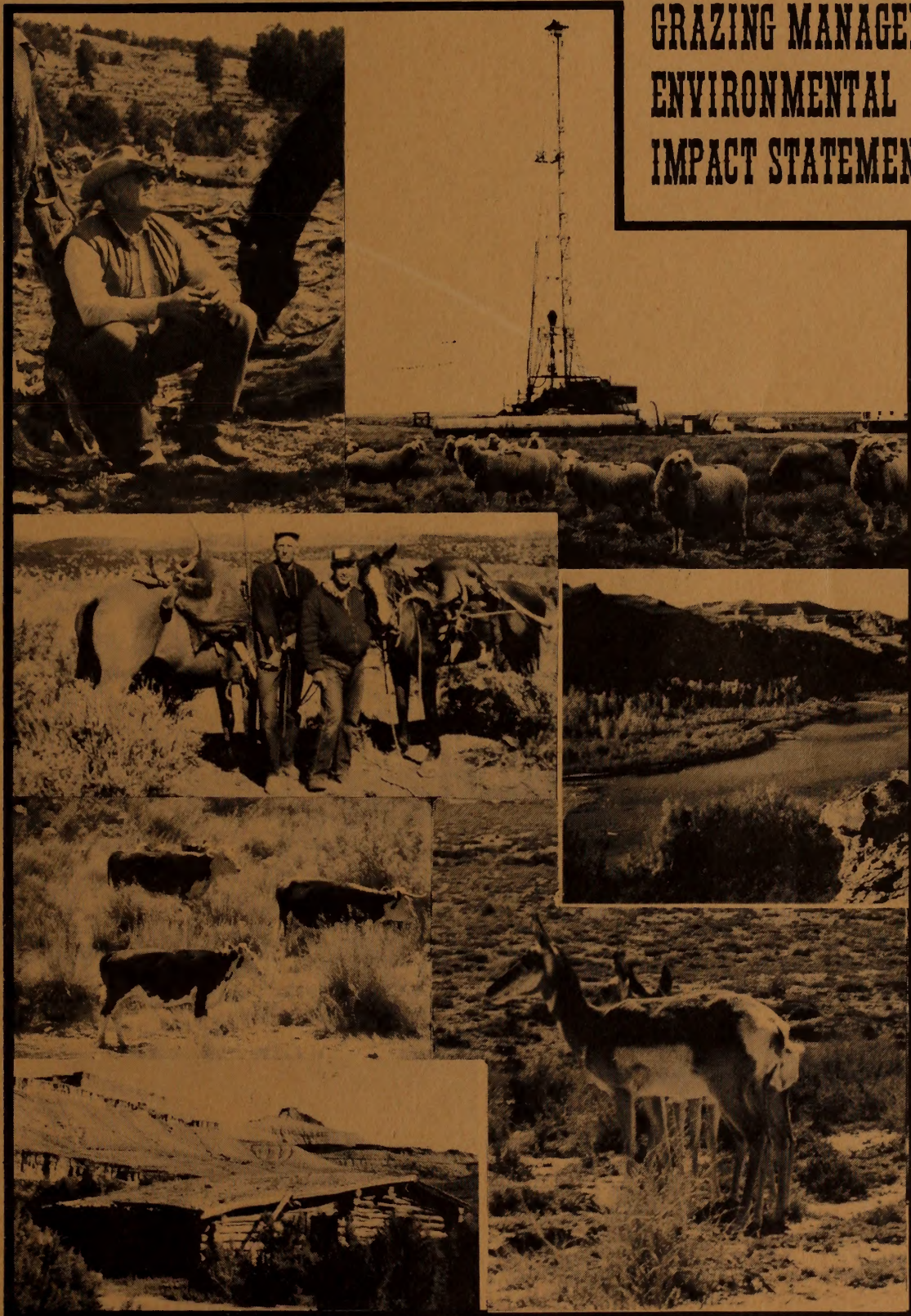
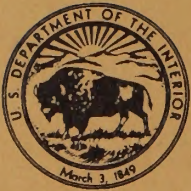


88065491

DRAFT ASHLEY CREEK GRAZING MANAGEMENT ENVIRONMENTAL IMPACT STATEMENT



UNITED STATES DEPARTMENT OF THE INTERIOR, BUREAU OF LAND MANAGEMENT



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

VERNAL DISTRICT OFFICE

170 South 500 East

Vernal, Utah 84078

June 1982

Enclosed for your review and comment is the Draft Environmental Impact Statement for the proposed grazing management program for the Ashley Creek Planning Area in Uintah, Duchesne, and Carbon Counties, Utah.

The EIS is based on information from Bureau of Land Management planning documents, inventory records, and other sources including federal, state, and local agencies, private organizations, and interested individuals. The purpose of the EIS is to disclose in advance the probable environmental impacts of the proposed action and its alternatives, and to assure that these factors are considered along with technical and other considerations in the decision-making process.

We would appreciate receiving your comments on the Draft EIS. The comment period will run for 45 days after the Draft is filed with the Environmental Protection Agency and the notice of receipt is published in the Federal Register. The notice is anticipated June 11, 1982. A public hearing will be held in the Uintah County Court House on July 15th at 7:00 P.M. Comments received after the 45-day review period (June 11 to July 26, 1982) will be considered in the subsequent decision-making process, even though they may be too late for inclusion in the Final EIS.

Your comments should be sent to:

Lloyd H Ferguson
District Manager
Bureau of Land Management
170 South 500 East
Vernal, Utah 84078

Please retain your copy of this Draft EIS. Portions of this document will probably not be reprinted in the Final EIS if changes in response to comments are minor.

Sincerely,

Lloyd H Ferguson
District Manager

14006906

ID: 88065491

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1982

PUBLIC HEARING REGISTRATION FORM

If you desire to comment on the Ashley Creek Grazing Management Draft EIS, please fill out and mail this form to:

Lloyd H. Ferguson, District Manager
Bureau of Land Management
170 South 500 East
Vernal, Utah 84078

(PLEASE PRINT)

From: Name _____
Address _____
City, State _____ Zip Code _____
Representing _____

I wish to speak at the public hearing on July 15, 1982, to express my views.

I intend to submit written documentation: Yes _____ No _____

Signature

Oral testimony will be limited to 10 minutes; written testimony will be accepted at the above address until close of business on July 26, 1982. Registration forms are to be submitted to the Vernal District Office before the close of business on July 14, 1982.

DEPARTMENT OF THE INTERIOR
DRAFT
ENVIRONMENTAL IMPACT STATEMENT
FOR
GRAZING MANAGEMENT
IN THE ASHLEY CREEK
PLANNING AREA

PREPARED BY
BUREAU OF LAND MANAGEMENT
DEPARTMENT OF THE INTERIOR

Roland A. Erickson

UTAH STATE DIRECTOR, BUREAU OF LAND MANAGEMENT

ASHLEY CREEK GRAZING MANAGEMENT

Draft (X) Final () Environmental Impact Statement
Department of the Interior, Bureau of Land Management

1. **Type of Action:** Administrative (X) Legislative ()

2. **Abstract:** The Bureau of Land Management (BLM), as part of their planning process for the Ashley Creek Planning Area and in response to a 1973 court suit, has prepared this Environmental Impact Statement (EIS). The BLM proposes to update livestock management on 65 allotments in the Diamond Mountain Resource Area of the BLM Vernal District. The planning area contains 527,974 acres of allotted public lands located in Duchesne, Uintah, and Carbon Counties in northeastern Utah. Management alternatives were identified during preparation of the Management Framework Plan. This EIS analyzes the environmental, cultural, and socioeconomic consequences of the alternatives. In the long term under each alternative (with the exception of Alternative 3, No Action) vegetation production and ground cover would increase, overall watershed condition, wildlife habitat, and surface water quality would improve, soil erosion would decrease, and regional income would increase. Proposed vegetation manipulation would somewhat degrade the area's scenery. Continued soil erosion, cattle trampling, and some vegetation manipulation would slightly disturb cultural resources. Riparian areas would improve only in the proposed action and in Alternative 5. Ranch income and capital values would decrease in some alternatives.

3. Alternatives Analyzed:

- A. Proposed Action — Multiple-Use Recommendation
- B. Livestock Forage Recommendation
- C. No Action — Active Preference
- D. No Change — Average Use
- E. Wildlife Habitat Recommendation

4. Comments Have Been Requested From the Following:

See attachment.

5. For Further Information Contact:

Alan Partridge, EIS Team Leader

BUREAU OF LAND MANAGEMENT

Richfield District Office

150 East 900 North

P. O. Box 768

Richfield, Utah 84701

Telephone: (801) 896-8221

6. Date Draft EIS made available to EPA and the public: June 11, 1982

Comments on the Draft EIS must be received by:
July 26, 1982

ATTACHMENT

Comments have been requested from affected livestock permittees and the following agencies, interest groups, and individuals:

FEDERAL AGENCIES

Department of Agriculture

- Agricultural Stabilization and Conservation Service
- Forest Service
- Soil Conservation Service

Department of the Interior

- Fish and Wildlife Service
- Bureau of Indian Affairs
- Bureau of Reclamation
- National Park Service
- Dinosaur National Monument
- Office of the Solicitor
- Advisory Council on Historic Preservation

Environmental Protection Agency

STATE AGENCIES AND ORGANIZATIONS

State of Utah

- Clearing House (A-95)
- Department of Agriculture
- Department of Natural Resources
- Division of Wildlife Resources
- Division of State Lands
- Division of State History

University of Utah

Utah State University

LOCAL AGENCIES

Duchesne, Uintah, and Carbon County Commissions

Ute Indian Tribe

NONGOVERNMENT ORGANIZATIONS

- Ada County Fish and Game League
- Audubon Society
- Brigham Young University
- Common Cause
- Council on Utah Resources
- Defenders of the Outdoor Heritage

Defenders of Wildlife

Enchanted Wilderness Association

Environmental Action

Environmental Awareness

Environmental Defense Fund

Friends of the Earth

Good Earth

Institute of Ecology

Izaak Walton League

League of Women Voters

National Council of Public Land Users

National Parks and Recreation Association

National Stock Growers' Association

National Wildlife Federation

Natural Resources Defense Council

Nature Conservancy

Nevada Outdoor Recreation Association

Oregon Environmental Council

Pacific Legal Foundation

Pro-Utah, Inc.

Public Lands Council

Rocky Mountain Center on Environment

Rocky Mountain Sportsmen Association

Save Our Canyons Committee

Sierra Club

Society for Range Management

The Wilderness Society

The Wildlife Society

Utah Cattlemen's Association

Utah Council, Trout Unlimited

Utah Environment Center

Utah Farm Bureau

Utah Nature Study Society

Utah Sportsmen Association

Utah Archaeological Society

Utah Wildlife and Outdoor Recreation Federation

Utah Wool Growers' Association

Women's Conservation Council of Utah

CONGRESSIONAL

Utah Delegation

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INTERESTED INDIVIDUALS

Copies of this Draft EIS will be available for public inspection at the BLM offices listed below:

Washington Office of Public Affairs

18th and C Street, N.W.
Washington, D.C. 20240
Phone (202) 343-4151

Utah State Office

University Club Building
136 East South Temple
Salt Lake City, Utah 84111
Phone (801) 524-4227

Vernal District Office

170 South 5th East
Vernal, Utah 84078
Phone (801) 789-1362

Richfield District Office

150 East 900 North
Richfield, Utah 84701
Phone (801) 896-8221

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CHAPTER 2 DESCRIPTION OF ALTERNATIVES

CHAPTER 3 THE AFFECTED ENVIRONMENT

CHAPTER 4 ENVIRONMENTAL CONSEQUENCES

CHAPTER 5 CONSULTATION AND COORDINATION

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SUMMARY

and the second year during the summer of 1991.

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SUMMARY

INTRODUCTION

This environmental impact statement (EIS) analyzes the environmental effects of five alternatives for managing grazing in the Ashley Creek Planning Area. Based on the analysis contained in this Draft EIS and additional public involvement, a rangeland management program will be selected and developed by the Bureau of Land Management (BLM) for 65 livestock grazing allotments (527,974 acres of BLM land) within the planning area.

The planning area is located in northeastern Utah and includes substantial areas of Duchesne and Uintah Counties, and a small area of Carbon County. The total planning area contains 819,274 acres (66 percent is BLM land, 1 percent is Ouray National Wildlife Refuge lands, and 33 percent is State and private lands).

This EIS was mandated in Federal court, following a suit filed in 1973 by the Natural Resources Defense Council et al. It was prepared with the existing data base and an updated (revised) Management Framework Plan (MFP). Much of the vegetation data is from 1960 range surveys which, because of time lapse, affects the data's reliability.

The need for revision of the grazing program is recognized by BLM. Some allotments in the planning area show signs of overgrazing (i.e., vegetation overutilization, streambank deterioration, and poor water quality). BLM has identified, through its multiple-use planning process, several alternatives that could overcome these problems and that are, to varying degrees, compatible with the needs and goals of area residents. Alternative 1 is the preferred alternative; however, action from each of the alternatives could be selected by management following the completion of the EIS process.

SCOPING

As a part of the planning process, continuing public involvement (scoping) has identified significant issues which are considered in this EIS and form the basis for the proposed alternatives. Public involvement also helped determine the level of detail and depth of impact analysis covered in this Draft EIS.

Many of the issues raised during the scoping process centered on livestock grazing and socioeconomic concerns such as level of grazing, season of use, and the degree of management/control required to implement improved rangeland management. Other issues of concern were increases in wildlife, habitat condition, recreation, and visual resources as they related to livestock grazing.

DESCRIPTION OF ALTERNATIVES

Alternatives analyzed are: (1) Proposed Action — Multiple-Use Recommendation; (2) Livestock Forage Recommendation; (3) No Action — Active Preference; (4) No Change — Average Use; and (5) Wildlife Habitat Recommendation. This EIS identifies and analyzes short-term stocking, priority (between big game and livestock) for future stocking, management levels, vegetation manipulation, and standard features for allotment management for each alternative. A general description of each alternative follows.

ALTERNATIVE 1: PROPOSED ACTION — MULTIPLE-USE RECOMMENDATION

This alternative is based on a compromise among conflicting resource uses and legal feasibility. All resources were considered on an equal basis. The initial stocking would be temporary (for a 5-year short-term period) while monitoring studies were conducted. Based on the monitoring studies, a new active preference could be established. In the long term, vegetation manipulation projects and new management levels would be implemented.

ALTERNATIVE 2: LIVESTOCK FORAGE RECOMMENDATION

This alternative is based on the MFP Step 1 recommendations developed by the rangeland resource specialists. Livestock would be given priority of available forage. This alternative would also require a monitoring period, vegetation manipulation projects, and management level changes.

ALTERNATIVE 3: NO ACTION — ACTIVE PREFERENCE

Under this alternative, present management practices (active preference) would continue through both the short and long terms. Grazing permits would continue to set a period of grazing and kinds and numbers of livestock allowed to graze. The current level of monitoring studies would be continued to determine range trend.

ALTERNATIVE 4: NO CHANGE — AVERAGE USE

Under this alternative, stocking would continue at average use during an initial 5-year monitoring period. (Average use is an average of 3 of the last 8 years of grazing use.) The alternative would require temporary reductions from active preference on most allotments during the initial monitoring period. Vegetation manipulation would be proposed and management levels would change at about the same level as the past 20 years. Long-term stocking would favor big game in allotments containing big game crucial habitat.

SUMMARY

ALTERNATIVE 5: WILDLIFE MANAGEMENT RECOMMENDATION

This alternative is based on the MFP Step 1 recommendations developed by the fishery, wildlife, and watershed resource specialists. This alternative proposes initial stocking for livestock at a level not greater than 50-percent vegetation utilization and allows for present big game use. The long-term stocking priority would be to reach the prior stable level for deer, the projected demand levels for elk and antelope, and a compatible stocking for livestock.

Table 1 compares the alternatives' proposals for initial stocking, implementation of Allotment Management Plans (AMPs), vegetation manipulation projects, and riparian protection (fencing).

AFFECTED ENVIRONMENT

The planning area is dominated by pinyon-juniper and sagebrush vegetation types, although there is considerable species diversity due to unique physiographic and climatic features.

Although riparian vegetation occupies less than 1 percent of the planning area, it is unique and important to livestock and wildlife. Most of the riparian vegetation in the planning area is estimated to be in fair condition.

Soils are characterized by low organic matter content and most have limited development and poor structure. The majority of soils found in the planning area consists of a silty, clay sand mixture (loamy) and is subject to water erosion. Currently, 40 percent of the planning area is in stable and slight erosion condition, 48 percent in moderate erosion condition, and 12 percent in critical erosion condition.

Most of the perennial streams are small (3 feet or less in width), subject to flooding, and provide poor quality fish habitat. Most streambanks are also in poor condition. Few stream sections support or have the capability of supporting game fish populations.

The planning area is important big game habitat for deer, elk, and antelope. Most of the planning area is rated in good habitat condition by the Utah Division of Wildlife Resources (UDWR). Deer numbers are increasing but are below prior stable numbers. Elk and antelope numbers are stable, although antelope numbers would increase from the proposed UDWR transplant. The bald eagle and peregrine falcon are found in the planning area, although most of their important habitat is found on private lands. The existence of

black-footed ferret is questionable in the planning area.

Most of the 60 livestock owners using BLM rangelands run cow-calf and ewe-lamb operations. The number and size class of operators in the planning area are shown in Table 2.

Important recreational activities include sight-seeing, camping, picnicking, hunting, fishing, off-road vehicle use, snowmobiling and cross-country skiing. Recreation use is increasing and occurs year-round. No lands in the planning area meet the criteria for wilderness designation.

The region is currently experiencing energy and mineral development. Lifestyles reflect a strong agricultural tendency, although agriculture's economic importance is declining. In terms of income and employment, energy, government (local, State, and Federal), service and trade, transportation, mining, and construction sectors dominate the local economies. Residents are characteristically self-reliant, strong-willed people whose independence reflects the traditional Western lifestyle.

ENVIRONMENTAL CONSEQUENCES

The potential effects of implementing each of the five alternatives were evaluated in relation to the existing situation by an interdisciplinary team. The results of this analysis are summarized in Chapter 4. Significant impacts are shown by alternative in Table 3.

RANGELAND MANAGEMENT DECISION

This EIS is part of the BLM's decision-making process. An opportunity for additional public involvement is available. Comments dealing with the adequacy of the analysis and other relevant issues may be made during a 45-day period after the Draft EIS is completed. No decisions will be made until completion of the Final EIS, which also includes a 30-day comment period.

Following the 30-day comment period on the Final EIS, BLM will develop a draft rangeland management decision which will be available for public comment. The final decision will establish the BLM rangeland management program for the Ashley Creek Planning Area.

TABLE 1

Alternative Comparisons

| | Alternative 1 | Alternative 2 | Alternative 3 | Alternative 4 | Alternative 5 |
|---|-------------------|------------------|------------------|-------------------|------------------|
| <u>Initial Stocking</u> | | | | | |
| Livestock | 33,399 | 31,304 | 39,303 | 22,748 | 20,684 |
| Big Game | 10,830 | 10,454 | 10,454 | 10,454 | 10,454 |
| <u>Priority for Future Stocking^a</u> | | | | | |
| First | BG-P | L-A | L-AP | BG-P | BG-0 |
| Second | L-A | BG-P | BG-0 | L-A | L |
| Third | BG-0 ^b | L | | BG-0 ^b | |
| Fourth | B | | | | |
| <u>Allotments With AMPS</u> | | | | | |
| Implemented | 27 | 27 | 0 | 14 | 0 |
| Continued | 12 | 12 | 12 | 12 | 12 |
| <u>Vegetation Manipulation</u> | | | | | |
| Allotments | 33 | 34 | 0 | 13 | 35 |
| Acres | 57,420 | 87,200 | 0 | 24,360 | 42,650 |
| <u>Riparian Protection</u> | | | | | |
| Acres | 30 | 0 | 0 | 0 | 55 |
| <u>Estimated Long Term</u> | | | | | |
| Vegetation Production (AUMs) | 49,000 | 51,000 | No estimates | 43,000 | 46,000 |

Source: USDI, BLM, 1981.

^aBG-P = Big Game - Present use

BG-0 = Big Game - Objective stocking for elk, antelope, and bighorn sheep or prior stable numbers for deer

L-A = Livestock - Average use

L-AP = Livestock - Active Preference

L = Livestock

B = Both (50-50 basis).

^bOn crucial big game ranges only.

SUMMARY

SUMMARY

TABLE 2
Livestock Operators

| Size Class | Number |
|---|--------|
| Small cattle operators (1 to 99 head) | 17 |
| Medium cattle operators (100 to 199 head) | 15 |
| Large cattle operators (200 head or more) | 14 |
| Small sheep operators (less than 199 head) | 10 |
| Large sheep operators (200 head or more) | 8 |

Source: USDI, BLM, 1981.

TABLE 3
Comparison of Environmental Consequences^a

| Resource Category ^b | 1 Proposed Action | 2 Livestock Forage | 3 No Action | 4 No Change | 5 Wildlife Habitat |
|--------------------------------|----------------------|-----------------------------------|----------------|---|---|
| Vegetation | Beneficial | Beneficial | Adverse | Beneficial | Beneficial |
| Soil | Beneficial | Beneficial | Adverse | Beneficial | Beneficial |
| Water Quality | Beneficial | Beneficial | Adverse | Beneficial | Beneficial |
| Animal Life | Slightly Beneficial | Slightly Beneficial | Adverse | Slightly Beneficial | Beneficial |
| Livestock Grazing | Beneficial | Beneficial | Both | Both | Both |
| Recreation | Beneficial | Adverse | Adverse | Beneficial | Beneficial |
| Socioeconomics | Both | Beneficial to Agricultural Sector | Beneficial | Adverse to Agricultural Sector Beneficial to Wildlife Sector | Adverse to Agricultural Sector Beneficial to Wildlife Sector |
| Visual Resources | Slightly Adverse | Adverse | Adverse | Adverse | Adverse |

Source: Table 2-5.

^aTo evaluate the impacts for inclusion in this table, the following question was asked, "would the resource environment undergo beneficial or adverse consequences in the long term?".

^bCultural resources are not listed because they would not experience any significant consequences.

CHAPTER 1

THE PURPOSE AND NEED OF THE PROPOSED ACTION

CHAPTER 1

PURPOSE AND NEED FOR ACTION

INTRODUCTION

The Ashley Creek Planning Area, located in north-eastern Utah, consists of the Ashley Creek and Duchesne Planning Units (see Figure 1-1). The planning area has a total of 819,274 acres. Sixty-six percent (543,679 acres) of this area is Bureau of Land Management (BLM) administered public lands (hereinafter referred to as public lands); 1 percent (5,977 acres) is Ouray National Wildlife Refuge lands; and the remaining 33 percent (269,618 acres) is State and private lands. The public lands within the planning area are administered by the Diamond Mountain Resource Area of the Vernal District.

The planning area provides forage and habitat for livestock and wildlife, as well as scenic, recreation, and other resource values. For livestock management, the planning area has been divided into 65 allotments (see Figure 1-2). These allotments contain 527,974 acres (97 percent of the public lands in the planning area) and are the only lands analyzed in this EIS. The remaining acreage consists of areas managed by the Price River Resource Area or isolated areas not included in allotments. Appendix 1 contains background information for each allotment.

PURPOSE AND NEED

The purpose of the action — the implementation of a revised grazing management program in the planning area — is to maintain or improve public land resources such as soil, water, and vegetation. This action is consistent with the BLM's general rangeland program objectives. The BLM's principal authority to manage public lands is found in the Taylor Grazing Act of 1934, Federal Land Policy and Management Act of 1976, and Public Rangelands Improvement Act of 1978.

Available vegetation data indicate that some allotments in the planning area may be overstocked. Watershed and soil studies show that some areas need protection from grazing animals. These special situations were analyzed in the Management Framework Plan (MFP), and the need to correct them was pointed out.

Further, this environmental impact statement (EIS) is responsive to a suit filed in 1973 by the Natural Resources Defense Council et al. in Federal Court alleging that BLM's programmatic grazing EIS did not comply with the National Environmental Policy Act (NEPA) (42 USC 4321 et seq.).

THE PLANNING PROCESS

The planning documents for the planning area were updated in 1981. Inventory data on land and resource

conditions and capabilities were recorded, summarized, and analyzed in the Unit Resource Analysis (URA). Data on social and economic conditions were recorded, summarized, and analyzed in a document called the Planning Area Analysis (PAA). These two documents are the basis for the development of a MFP that addresses land uses and resource allocations. (Figure 1-3 provides an overview of BLM's planning system.)

During Step 1 of the MFP, BLM specialists formulated individual resource recommendations and objectives for management of public lands. Specific rangeland management objectives for the planning area are listed in Appendix 2. These resources included livestock forage, wildlife habitat, watershed, forest products, recreation, minerals, and lands. During Step 2 of the MFP, conflicts among the resource specialists' recommendations were identified, analyzed, and a multiple-use recommendation was developed, which is the proposed action of this EIS. (Appendix 2 shows the evolution of the proposed action, tracing each of the MFP Step 1 rangeland management recommendations through the MFP Step 2 process to arrive at multiple-use rangeland recommendations.)

Alternatives in this EIS include implementing specialists' recommendations from the MFP Step 1, continuing the existing grazing program, and retaining active preference for livestock and present big game use.

Following the analysis of the proposed action and alternatives, the Vernal District Manager will prepare a MFP Step 3, and he will issue decisions regarding the rangeland management program and other resources for the planning area.

SCOPING OF ISSUES AND ALTERNATIVES

Scoping is the identification of issues, concerns, interrelationships, and possible alternative courses of action. Furthermore, it is a way for BLM to consult with affected or concerned parties. Significant issues to be discussed in the EIS were identified during the scoping process, thus ensuring insignificant issues were not discussed.

To involve private individuals and groups and government agencies interested in the planning area, a scoping process was developed. The scoping of issues began in April 1980 when the preplanning analysis session for the URA and MFP was initiated. Following the completion of MFP Step 1, a scoping session was held with BLM representatives of state

PURPOSE AND NEED

and district staffs and the environmental impact statement team.

In August 1980 and October 1981, public meetings were held at Vernal for public comment on BLM recommendations and alternatives for management of the planning area. The meetings (announced in the *Federal Register* on July 20, 1980 and September 17, 1981) were attended by private individuals and groups and government agencies. Those attending met with BLM employees to identify concerns related to grazing management in the planning area and to review the proposed action and alternatives.

The scoping process identified the need for improvement of range condition, vegetation cover, forage production, and watershed protection as the most significant issues. Also, the importance of protecting threatened and endangered plant or animal species and archaeological and historical resources was recognized, although several participants felt that the requirements for these resources should be enforced only in specific areas and should not govern the rangeland management program for the entire area.

Other issues were big game and livestock winter range conflicts. The Utah Division of Wildlife Resources (UDWR) was concerned about the reduction of big game forage that could result from increasing livestock grazing. UDWR also expressed concern about the effect that livestock grazing could have on riparian vegetation.

The major concern of livestock operators was loss of income caused by reduction of animal unit months (AUMs) for livestock. Some felt that farm and ranch operation costs would increase if multiple pasture systems were implemented or if seasons of use for livestock were changed. However, interest in lengthening the season of use was expressed. Most livestock operators felt that big game numbers should not be increased at the expense of the livestock industry.

ALTERNATIVES DISCUSSED

Five alternatives have been identified for discussion in this EIS. Alternative 1 is the BLM-preferred alternative.

1. *Proposed Action — Multiple-Use Recommendation*
2. *Livestock Forage Recommendation*
3. *No Action — Active Preference*
4. *No Change — Average Use*
5. *Wildlife Habitat Recommendation*

ALTERNATIVES DISMISSED

The elimination of livestock grazing was dismissed as an alternative because it did not meet the test of a "reasonable" alternative as directed by the Council on Environmental Quality Regulations (1978).

PURPOSE AND NEED

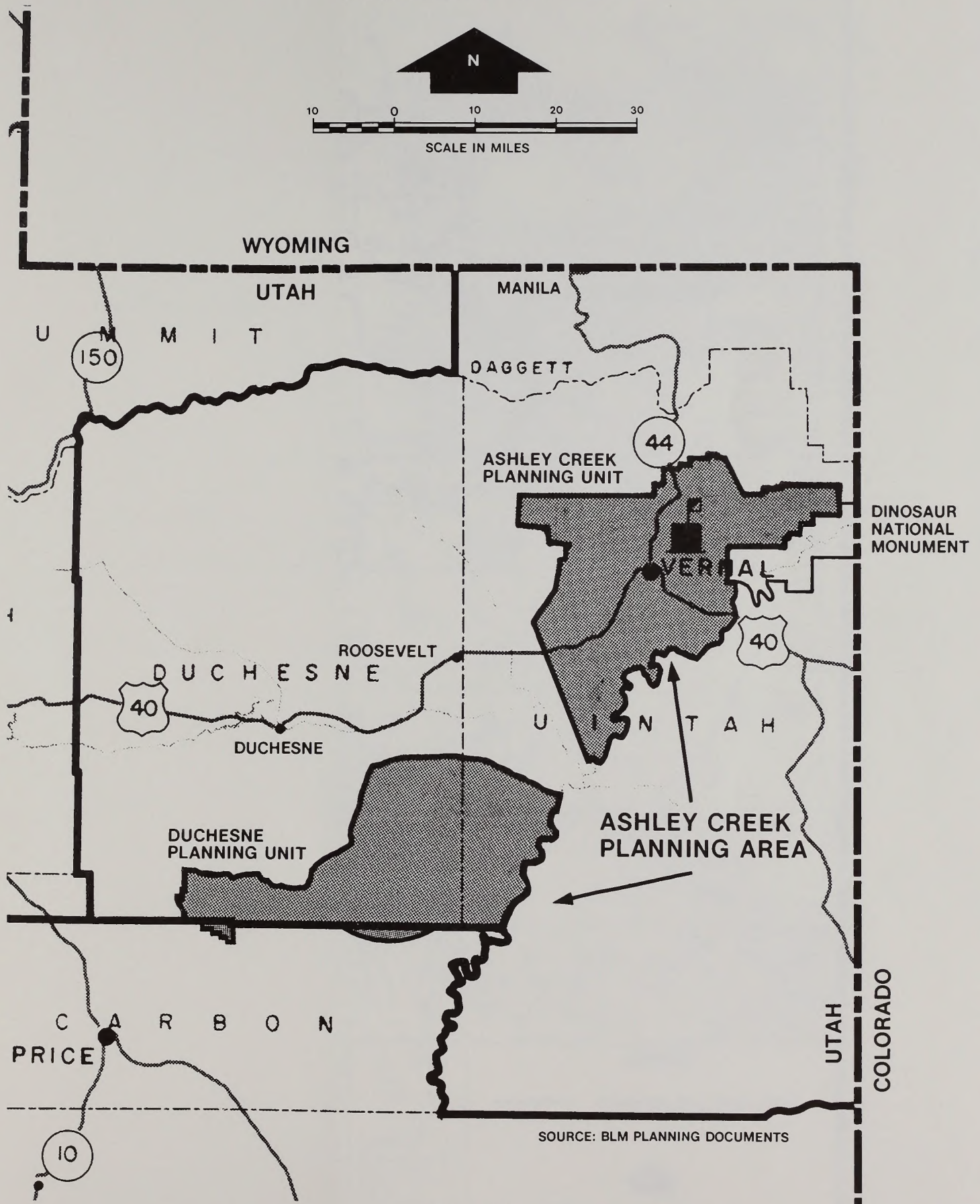


Figure 1-1
ASHLEY CREEK PLANNING AREA
VERNAL DISTRICT



17

PURPOSE AND NEED

PREPLANNING

Identification of issues, conflicts and concerns



RESOURCE INVENTORY

Collect data on vegetation, forest products, watershed, wildlife, recreation, minerals and land resources in the planning area.



UNIT RESOURCE ANALYSIS (URA)

Preparation of maps and data describing uses and potential uses for all seven resources.

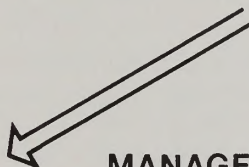
SOCIAL-ECONOMIC PROFILE (SEP)

Description of social and economic conditions in the affected district.



PLANNING AREA ANALYSIS (PAA)

Analysis of the needs and attitudes of the public relative to the seven resources within the planning area.



MANAGEMENT FRAMEWORK PLAN (MFP)

MFP Step 1. Specialists' recommendations for managing all seven resources



MFP Step 2. a. Multiple Use Recommendation.

b. Environmental Impact Statements (EIS) prepared on the multiple use recommendation and alternatives (specialists recommendations).



MFP Step 3. District Manager decides on Step 2 recommendation and alternatives and publishes those decisions in the MFP 3 Summary containing program summaries for resources, including:

Rangeland Program Summary (RPS)



Allotment Management Plan (AMP)



Habitat Management Plan (HMP)



Rangeland Improvements

Monitoring Studies¹



Adjustments to
Number of Active Preference AUMs

Adjustments to
Number of Wildlife AUMs

Figure 1-3

BLM PLANNING PROCESS FOR ASHLEY CREEK PLANNING AREA

¹Dependent on legislative finding.

DESCRIPTION OF ALTERNATIVES

INTRODUCTION

This chapter describes the alternatives and the range of management actions available to the land manager. The chapter is divided into three sections. The first section describes the alternatives, and the second section describes the range of management actions available to the land manager. The third section describes the range of management actions available to the land manager. The third section describes the range of management actions available to the land manager.

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DESCRIPTION OF ALTERNATIVES

SOME FEATURES THAT VARY BETWEEN ALTERNATIVES

WATER STOCKING

Water stocking will determine the amount of water available to the cattle. The amount of water available to the cattle will determine the amount of water available to the cattle. The amount of water available to the cattle will determine the amount of water available to the cattle.

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CHAPTER 2

DESCRIPTION OF ALTERNATIVES

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STOCKING

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MANAGEMENT LEVEL

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VEGETATION MANAGEMENT

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CHAPTER 3

DESCRIPTION OF ALTERNATIVES

CHAPTER 2

DESCRIPTION OF ALTERNATIVES

INTRODUCTION

This chapter describes the alternatives and compares the major environmental consequences of each. The chapter is divided into three sections: Section one, description of alternatives, includes: (1) a description and comparison of the basic features that vary between alternatives (proposed initial stocking, priorities for determining future stocking, management level, and vegetation manipulation); and (2) rationale, proposed actions, and change agents for the basic features by alternative. Section two describes administrative features common to all alternatives, including monitoring programs, grazing administration, and standard design, construction, and operating features. Section 3 compares the major environmental consequences of the alternatives.

Because water developments, fencing, stock trails, and other supporting range facilities will not be planned and installed on allotments until completion of Allotment Management Plans (AMPs), these range developments are not discussed in this environmental impact statement (EIS). Range developments will be analyzed in future Environmental Assessments (EAs) as AMPs are developed.

DESCRIPTION OF ALTERNATIVES

BASIC FEATURES THAT VARY BETWEEN ALTERNATIVES

INITIAL STOCKING

Initial stocking will determine the amounts of livestock grazing and big game use that would initially occur in each alternative (see Table 2-1). Appendix 3 shows proposed initial stocking by allotment for each alternative. Stocking would be based on one or a combination of the following factors: (1) estimated vegetation production; (2) vegetation utilization allowed; (3) vegetation preferred by the kinds of livestock and big game using the Ashley Creek Planning Area; and (4) the objectives of each alternative (e.g., the objective of Alternative 1, Multiple-Use Recommendation, is to equally consider all resource uses). Because the total vegetation production is not known, an estimated useable vegetation production based on 1960 range surveys and/or present monitoring studies is used in this EIS.

Adjustments in present livestock grazing would be initiated during the 1984 grazing season, based on the District Manager's decision. Adjustments in big game numbers would be accomplished through Bureau of Land Management (BLM) and Utah Division of Wildlife Resources (UDWR) recommendations to the Utah Board of Big Game Control.

Preparation of one grazing decision is estimated to require about 0.3 work month (a work month is equivalent to 173 hours of on-the-job work or about \$2,600), based on experience with other BLM districts. Therefore, preparing decisions on the 93 operations in the planning area is estimated to require about \$72,000 or 29 work months.

PRIORITIES FOR DETERMINING FUTURE STOCKING

This part of each alternative description lists proposed initial stocking and priorities for distributing forage to each kind of animal. For example, if the priority on an allotment were to maintain the present 500 animal unit months (AUMs) of big game use, forage would not be given to livestock unless vegetation production exceeded 500 AUMs.

MANAGEMENT LEVEL

This section will provide an overview of the intensity of rangeland management that would be applied to each allotment. Table 2-2 lists, by alternative, the number of allotments on which AMPs would be: (1) prepared and implemented; (2) continued; and (3) deferred or not prepared. Appendix 3 shows, by alternative, which allotments would require AMPs.

Costs for preparation of AMPs vary, depending on the size and complexity of the allotment. The average cost for preparation and implementation of one AMP is estimated at about \$10,000 (3 to 5 work months). Supervision, monitoring, and maintenance of AMPs are estimated at \$1,875 (0.5 to 1 work month) each per year. Monitoring of non-AMP allotments would cost about \$1,250 (0.5 work month) per year (see Table 2-2).

VEGETATION MANIPULATION

Vegetation manipulation projects are designed to protect and enhance rangelands by increasing productivity for big game or livestock and by improving soil cover, watershed condition, and range trend. Table 2-3 shows the total acreage of vegetation manipulation projects proposed for each alternative. Proposals for each allotment are shown in Appendix 3.

The kind of vegetation manipulation proposed depends on the current vegetation and soil conditions. Spraying and burning, without seeding, are proposed to control sagebrush where there are at least one desirable shrub and ten desirable forbs per 100 square feet and at least one key plant species encountered each one or two paces across the site. Burning also requires sufficient plant material to carry a fire. Clear-cutting (green wood sales) is proposed for removal of pinyon-juniper where access is adequate and firewood or posts are wanted.

DESCRIPTION OF ALTERNATIVES

The method of seedbed preparation would vary depending on the cover type of the site. Chaining is the most common method used in controlling pinyon-juniper areas, while both plowing and chaining can control sagebrush and leave a desirable seedbed.

Where insufficient desirable plant cover occurs, seeding would be required. In addition to useable grasses, various mixtures of shrubs and forbs would be planted.

Costs of vegetation manipulation differ, depending on the proposed method. Burning costs about \$3.00 per acre while chaining two ways and seeding with aircraft costs about \$34.00 per acre. Because the methods used for manipulation are not identified, a midpoint of \$20.00 per acre is estimated for all projects. The additional environmental assessment, field surveys, and range developments needed to support vegetation manipulation would bring the total cost to approximately \$40.00 per acre (see Table 2-3).

ALTERNATIVE 1: PROPOSED ACTION — MULTIPLE-USE RECOMMENDATION

This alternative is the MFP Step 2 multiple-use rangeland management recommendation (see Appendix 2). In this alternative, recommendations from all seven resources were considered on an equal basis.

The MFP Step 2 multiple-use rangeland recommendation was made on an allotment basis, with proposed decisions based on existing situations or needs (i.e., soil and vegetation condition, useability of the vegetation resource, soil and vegetation maintenance needs, and forage requirements by grazing animals).

No season-of-use changes are proposed in this alternative. About 25 acres of fencing along Nine Mile Creek in the Devils Canyon and Bull Canyon Allotments, and about 5 acres of fencing along the Green River in the Green River Bottoms Allotment are proposed for study and protection of watershed and riparian vegetation.

INITIAL STOCKING

Initial stocking proposed in this alternative is 33,399 livestock AUMs and 10,830 big game AUMs. This would increase livestock grazing by 10,651 AUMs above the present 3-year average licensed use (hereinafter referred to as average use). Average use is an average of the 3 most representative years on each allotment from records of the last 8 years (USDI, BLM, 1981). Present big game numbers would be maintained and transplanting of 300 antelope (376 AUMs) would be allowed. Appendix 3 shows the proposed livestock and big game initial stocking for each allotment and groups the allotments by recommended stocking. Proposed initial stocking for each group of

allotments in Appendix 3 is compared to average use for livestock and present use for big game below.

1. Livestock grazing would continue at average use (4,883 AUMs) on 13 allotments. (See Appendix 2 recommendation.)

Big game use would be maintained at 2,327 AUMs.

2. Livestock grazing would be allowed at the grazing capacity indicated by current studies and/or the 1960 survey (12,155 AUMs) on 13 allotments. This is a 5,032-AUM increase over average livestock use.

Big game use would be maintained (1,137 AUMs) and 138 AUMs would be added for increases in antelope use on five allotments.

3. Livestock grazing would be allowed at active preference (14,006 AUMs) on 37 allotments. This is a 4,846-AUM increase over average livestock use.

Big game use would be maintained (7,158 AUMs) and 113 AUMs would be added for increases in antelope use on three allotments.

4. Livestock grazing would increase above active preference to the grazing capacity indicated by current studies (2,355 AUMs) on two allotments. This is a 773-AUM increase in average livestock use and 680 AUMs more than active preference.

Big game use would be maintained (208 AUMs) and 125 AUMs would be added for increases in antelope use on one allotment.

PRIORITY FOR DETERMINING FUTURE STOCKING

Future available forage would be distributed during the third and fifth years of monitoring. Livestock operators would be allowed to graze their livestock above active preference until big game numbers increased enough to use the additional forage on all allotments. Permits for this additional grazing would be issued on a temporary basis. Priorities, in descending order, would be:

1. Maintain present big game use on all allotments.

2. Allow livestock grazing up to active preference on all allotments.

3. Allow big game use to increase to prior stable AUMs for deer and the objective stocking AUMs for elk and antelope on crucial winter range.

4. Divide forage increases equally between big game and livestock on non-crucial areas. If this forage were not needed by big game, it would be given to livestock.

DESCRIPTION OF ALTERNATIVES

MANAGEMENT LEVEL

AMPs would be prepared on 27 allotments and existing AMPs would be updated and continued on 12 other allotments. First priority for completion of AMPs would be given to solve immediate resource problems and/or result in high multiple-use values on allotments. Second priority would be given to those allotments which have had past major reductions and/or are proposed for major reductions in livestock grazing. Vegetation manipulation projects and other needed range improvements would be specified in the AMPs.

VEGETATION MANIPULATION

Vegetation manipulation projects would occur on 33 allotments to increase forage for livestock and big game. In addition to project design restrictions, these projects would be constrained by multiple-use considerations such as visual resource management (VRM) criteria, big game requirements, and special recreation areas. The area identified for vegetation manipulation is estimated at 57,420 acres.

ALTERNATIVE 2: LIVESTOCK FORAGE RECOMMENDATION

This alternative is derived from rangeland specialists' recommendations in the MFP Step 1. This alternative would allow livestock priority for vegetation up to that amount available (specified in the 1960 range surveys and current monitoring studies) without reducing present big game use. Rangeland protection and management would improve vegetation production and allow livestock and big game use to increase. Vegetation that could not be made available for livestock would be provided for other uses. Big game use would be stabilized at present use. All ranges would be monitored and stocking regulated to achieve vegetation improvement to fair or good condition in the long term.

INITIAL STOCKING

Proposed initial stocking is 31,147 AUMs for livestock and 10,454 AUMs for big game. Livestock grazing would be 8,399 AUMs higher than average use. No change in big game use is proposed. Appendix 3 shows proposed initial stocking for each allotment and groups the allotments by recommended stocking. The following list compares those groups to the average use.

1. This alternative proposes the same stocking as the proposed alternative on 25 allotments. Livestock on those allotments would use 8,760 AUMs (2,676 more than average use).

Big game use would be maintained at 1,597 AUMs.

2. Livestock grazing would continue at average use (6,943 AUMs) on 13 allotments.

Big game use would be maintained at 1,957 AUMs.

3. Livestock grazing would be allowed at the grazing capacity indicated by current monitoring studies on two allotments. Monitoring on these allotments indicates that grazing capacity exceeds present use. Livestock grazing would increase to 4,641 AUMs (2,222 AUMs more than average use).

Big game use would be maintained at 440 AUMs.

4. Livestock grazing would be allowed at active preference on 24 allotments, an increase of 9,760 AUMs (3,234 AUMs more than average use).

Big game use would be maintained at 6,382 AUMs.

5. Livestock grazing would increase to 1,043 AUMs (267 AUMs more than average use) on the Wetlands Allotment.

Big game use would be maintained at 78 AUMs.

PRIORITY FOR DETERMINING FUTURE STOCKING

The objective of this alternative is to increase livestock grazing to provide maximum benefit possible to livestock operators without reducing big game use. The priority for future stocking would be:

1. Maintain average livestock use.
2. Maintain present big game use.
3. Increase livestock use.

MANAGEMENT LEVEL

AMPs would be completed and continued on the same allotments as in Alternative 1, the proposed action. AMPs would first be completed on allotments having higher potential to provide additional livestock forage.

VEGETATION MANIPULATION

Vegetation manipulation would be performed on 87,200 acres to increase grazing capacity.

ALTERNATIVE 3: NO ACTION — ACTIVE PREFERENCE

The objective of this alternative is to evaluate the effects of stocking at active preference. This alternative meets the requirement of analyzing the No Action Alternative required by the National Environmental Policy Act (NEPA). It should be kept in mind that BLM cannot allow livestock grazing to exceed grazing capacity and, consequently, this alternative may be invalid on some allotments. Big game use would be maintained at present use.

Present actual use and trend studies would con-

DESCRIPTION OF ALTERNATIVES

tinue, as would management practices. The monitoring program would not be implemented. No vegetation manipulation would occur.

Specific actions for this alternative follow.

INITIAL STOCKING

Initial stocking proposed in this alternative would be 39,303 AUMs for livestock, a 72-percent increase from average use (22,748 AUMs). Big game use would be 10,454 AUMs (deer, 8,543 AUMs; antelope, 187 AUMs; and elk, 1,724 AUMs). Proposed stocking is as follows:

1. Livestock grazing would be the same as the proposed action: 14,006 AUMs on 37 allotments (4,846 AUMs more than average use).

Big game use would be maintained at 7,045 AUMs.

2. Livestock grazing would increase on 26 allotments, would not change on one allotment, and would decrease by 10 AUMs on one allotment. Grazing on this group of allotments would be 25,297 AUMs (11,709 AUMs more than average use).

Big game use would be maintained at 3,409 AUMs.

PRIORITY FOR DETERMINING FUTURE STOCKING

BLM would take no action to change stocking except as legally required to control unauthorized grazing. There would be no priority for future stocking.

MANAGEMENT LEVEL

BLM would monitor the 12 established AMPs until they became outdated and were discontinued.

ALTERNATIVE 4: NO CHANGE — AVERAGE USE

This alternative examines the effect of continuing average use. If this alternative were implemented, prior MFP decisions and the AMP program would continue to direct actions.

INITIAL STOCKING

Initial stocking proposed in this alternative would be average use for livestock (22,748 AUMs) and present big game use (10,454 AUMs). Proposed stocking is as follows.

1. Livestock grazing would be maintained at 4,883 AUMs on 13 allotments (the same as the proposed action).

Big game use would be maintained at 2,327 AUMs.

2. Livestock grazing would be maintained at 17,865 AUMs on 52 allotments.

Big game use would be maintained at 8,127 AUMs.

PRIORITY FOR DETERMINING FUTURE STOCKING

On allotments containing big game crucial range, forage would first be provided to meet prior stable and objective stocking levels. Remaining forage would then be given to livestock. On allotments not containing big game crucial range, forage increases would be divided equally between livestock and big game.

MANAGEMENT LEVEL

Existing AMPs would continue to direct livestock grazing on 12 allotments. About one new AMP would be implemented each year, based on the past 20 years of record. Thirteen allotments are listed in Appendix 3 which would receive priority for AMP implementation in this alternative.

VEGETATION MANIPULATION

New projects would be developed at about the same rate as in the past 20 years (about 1,200 acres annually). Appendix 3 lists 24,360 acres which meet the criteria for vegetation manipulation.

ALTERNATIVE 5: WILDLIFE HABITAT RECOMMENDATION

This alternative was developed by BLM during the planning process, evolving from resource recommendations made in the MFP Step 1. Resources other than livestock grazing were given first priority for management and use of vegetation (i.e., watershed, wildlife, etc.). The priority in this alternative is to increase big game numbers.

This alternative would provide forage for the prior stable level of deer, the stocking objective levels for elk and antelope in the long term, and would allow for the introduction of bighorn sheep. Changes in season of use for livestock grazing are proposed because of watershed recommendations to protect erodible soils.

Deer, elk, and antelope would be given all available and useable forage, although they would not, in most cases, require that amount until their numbers increased. Until such time as this increase took place, all vegetation not needed by big game would be used on a temporary non-renewable basis by livestock.

Specific actions for this alternative follow.

INITIAL STOCKING

Because big game would require time to increase to the levels proposed in this alternative, initial big game use would be the same as for Alternative 1, the proposed action. Proposed stocking is as follows:

DESCRIPTION OF ALTERNATIVES

1. Livestock grazing would continue at average use on 45 allotments (17,354 AUMs).

Initial big game use would be 6,285 AUMs. AUMs would increase yearly.

2. Livestock grazing on 19 allotments would be 3,330 AUMs. This is a 2,064-AUM reduction below average use (5,394 AUMs).

Big game use would be increased to 4,168 AUMs.

PRIORITIES FOR DETERMINING FUTURE STOCKING

This alternative would provide forage for big game as rapidly as their numbers increased.

The priority for future stocking would be:

1. Allow big game use at the prior stable level for deer and at the stocking objective levels for elk, antelope, and bighorn sheep.

2. Allow livestock to use the remaining forage available. Livestock reductions would be made as big game needed additional forage.

MANAGEMENT LEVEL

Twelve allotments would continue to operate under existing AMPs as long as management improved big game habitat. If it were determined that big game habitat was not improving, those AMPs would be discontinued or adjusted to ensure such improvement.

The season of use would be changed to eliminate spring grazing (March 15th to June 15th) on Brush Creek and Paddy's Gap Allotments. This would ensure that areas with erodible soils were not overgrazed and trampled.

VEGETATION MANIPULATION

Pinyon-juniper stands would be chained, burned, or clear-cut to increase production of grass-browse vegetation for big game forage and to create openings for antelope movement on 42,650 acres.

Five acres of riparian vegetation along the Green River would be fenced to analyze the grazing protection required to preserve and maintain riparian habitat. Also, two 1-mile sections (50 acres) of Nine Mile Creek would be fenced to protect watershed values and riparian vegetation from livestock grazing.

ADMINISTRATIVE FEATURES COMMON TO ALL ALTERNATIVES

After conclusion of the 30-day comment period of the Final EIS, the District Manager will review the public comments on both Draft and Final EISs and draft a decision. This decision may be selection of one of the EIS alternatives (including the proposed action) intact, or a blend of features from several alternatives analyzed.

A Rangeland Program Summary (RPS) which includes the draft decision will then be distributed to interested parties. After a 45-day comment period and public meetings, the District Manager will submit (if appropriate) a revised decision to the State Director for concurrence or modification. This decision will be published in a Final RPS and will consider all information available at that time including public opinion, management feasibility, policy, and legal constraints as well as the EIS analysis. AMPs will then be developed through consultation and coordination with the livestock operators.

MONITORING PROGRAM

A monitoring program will be implemented on all allotments to ensure that resource objectives are being met. (This program is not included in Alternative 3.)

The program will include water quality monitoring, which will be initiated in accordance with Executive Orders 11991 and 12088, BLM Manual 7240, and Sections 208 and 313 of the Clean Water Act (P.L. 95-217, P.L. 92-500 as amended). Representative riparian areas will also be monitored to determine changes in the habitat conditions for fish and wildlife resulting from implementation of the selected alternative. Such monitoring will comply with BLM Manual 6740.

Big game habitat condition and vegetation utilization studies will be monitored to determine the effectiveness of design features for vegetation manipulation and management levels.

Livestock grazing evaluations will also be made (i.e., actual grazing use, vegetation utilization, moderate use [40 to 60 percent desirable], range condition and trend, climate analyses, and where applicable, SVIM data) (BLM Manual Section 44I3.3). The sequence for monitoring and stocking adjustments following the Final RPS will be:

1. *First Year.* Discuss program with livestock operators. Bring initial stocking to levels indicated by the selected alternative. Examine vegetation, livestock, big game, water quality, and riparian area responses.

2. *Second Year.* Inform livestock operators of first year evaluation. Examine vegetation, livestock, and big game responses.

3. *Third Year.* Inform livestock operators of results of first and second year evaluations. Bring stocking to levels indicated by evaluations. Examine vegetation, livestock, and big game responses.

4. *Fourth Year.* Inform livestock operators of results of third year evaluation. Continue to stock at

DESCRIPTION OF ALTERNATIVES

the new level. Examine vegetation, livestock, and big game responses.

5. *Fifth Year.* Inform livestock operators of results of fourth year evaluation. Continue to stock at the new level. Examine vegetation, livestock, big game, water, and riparian area responses. Discuss 5 years of monitoring studies with livestock operators. Establish a new active preference to bring use within moderate limits (40 to 60 percent), based on the fifth year evaluation.

Stocking during the first and third years could be increased or decreased. If an evaluation supported an increase in livestock grazing, additional use would be granted on a temporary non-renewable basis. If evaluation indicated a need to decrease, livestock grazing would be temporarily reduced. In the fifth year, each livestock operator would be issued permits which specified allotment, season of use, and numbers and kind of livestock. Livestock grazing would be supervised throughout the year. If unauthorized grazing should occur, action would be taken by BLM to eliminate it in accordance with regulations in 43 CFR 4150.

STANDARD DESIGN, CONSTRUCTION, AND OPERATION FEATURES

The following criteria were used to determine which allotments contained areas where vegetation manipulation should be proposed.

1. Need for measures that would reverse downward trend in vegetation to meet management objectives within an acceptable time period (e.g., 5 years on sensitive sites).
2. Need to improve vegetation condition and site productivity to meet management objectives within a reasonable time period (e.g., 20 years) if grazing management alone would not meet this objective.
3. Suitability of the site for grazing livestock and/or for big game habitat.
4. Soil suitability for vegetation manipulation. Soils should be deep, low in soluble salts, and possess physical properties (texture and structure) favorable to soil moisture storage. Effective root depths of 18 inches or more are desirable (Robinson, 1979). Soils with soluble salts in excess of 1 percent (particularly sodium) are not suitable for restoration measures. Treatment of rocky soils may be limited to burning or spraying with selective herbicides (Plummer et al., 1968).
5. Suitability of the slope to sustain vegetation manipulation. Slopes of less than 20 percent are generally best suited. Slopes of up to 50 percent can be chained and burned with proper care. Slopes exceeding 50 percent should not be considered except where necessary for stabilizing soils

and reducing runoff (Plummer et al., 1968; Vallentine, 1974).

6. Availability of soil moisture for successful seeding. Precipitation in excess of 9 inches is generally essential for successful restoration projects. Crested wheatgrass (*Agropyron cristatum*, *A. desertorum*) and Russian wildrye (*Elymus junceus*) can be successfully seeded where the annual precipitation exceeds 10 inches; such species as intermediate wheatgrass (*Agropyron intermedium*) require in excess of 13 inches (Cook, 1966; Plummer et al., 1968; Vallentine, 1974).

7. Needs of grazing animals (e.g., seeding to furnish early spring-growing grasses for livestock, and/or to make more desirable browse and forbs available for wintering big game and/or livestock, etc.) (Cook and Harris, 1968; Frischknecht and Stevens, 1979).

The following protective measures would be required as standard design, construction, or operation procedures. These measures would be required to protect resource values and limit adverse impacts associated with the proposed grazing management program.

1. An EA would be required prior to ground-disturbing actions if significant modification occurred or if resource information indicated a need for further examination. The EA would be written to conform with BLM policy, would be site specific, and would supplement this EIS.
2. Disturbed areas where natural revegetation would not be expected would be seeded to provide ground cover and minimize soil losses. Seeding would generally be accomplished in the fall with plant species adaptable to the specific site. Probable species would include wheatgrass, brome grass, alfalfa, bitterbrush, four-winged saltbush, and small burnet.
3. Examination of physical site factors such as slope, exposure, soil depth, seeding suitability, and erosion hazard would be criteria used in selecting sites for vegetation manipulation projects.
4. A survey of potential habitat for threatened, endangered, or sensitive plant and animal species (including any species under consideration for formal designation as threatened or endangered) would be made prior to taking any action that could affect these species. Should BLM determine there might be an effect on listed species, formal consultation with the U.S. Fish and Wildlife Service (FWS) would be initiated.
5. Archaeological surveys and clearances would be required for all project sites (as specified in BLM Manual 8111.14) prior to new construction. BLM

DESCRIPTION OF ALTERNATIVES

has entered into a memorandum of understanding with the Utah State Historic Preservation Officer regarding protection of cultural resources.

6. Permanent trails or roads would be kept to a minimum. Existing access would be used whenever possible. Soil disturbance at all projects would be held to a minimum.

7. Those allotments on which vegetation manipulation occurred would not be grazed by livestock until vegetation became well established and capable of supporting livestock grazing. A minimum of two complete growing seasons with no livestock grazing would be required for burned or sprayed areas and a minimum of 2 full years of rest would be required for areas receiving ground-disturbing projects. This procedure would promote establishment of desirable vegetation.

8. Each year water developments would be periodically inspected to ensure that they remained in useable condition. Preventive maintenance would be performed as needed. Cooperative agreements with livestock operators would be solicited by BLM for range developments. Agreements would outline specific project maintenance responsibilities.

9. When possible, water for wildlife would be maintained throughout the year at established watering facilities.

10. The appropriate Federal officials would be

notified if paleontological remains were encountered during construction activities. Recovery, protection, and preservation measures would then be implemented, as necessary, to mitigate adverse impacts.

11. Riparian areas proposed for protection to maintain watershed and water quality would be fenced.

12. Prior to the development of projects, provisions of the Memorandum of Understanding of April 1, 1979 between the BLM, U.S. Forest Service (USFS), UDWR, and Soil Conservation Service (SCS) and the master Memorandum of Understanding between BLM and UDWR of June 1979 would be met. These memoranda provide for coordination in the development and establishment of guidelines for buffer zones for water, sage grouse strutting grounds, and other developments.

Design restrictions specifically applicable to proposed range developments are summarized in Table 2-4.

COMPARISON OF ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES

Table 2-5 compares the environmental consequences of all alternatives.

DESCRIPTION OF ALTERNATIVES

TABLE 2-1

Proposed Initial Stocking by Alternative

| | Livestock (AUMs) | Big Game (AUMs) |
|---------------|------------------|-----------------|
| Alternative 1 | 33,399 | 10,830 |
| Alternative 2 | 31,147 | 10,454 |
| Alternative 3 | 39,303 | 10,454 |
| Alternative 4 | 22,748 | 10,454 |
| Alternative 5 | 20,684 | 10,454 |

Source: USDI, BLM, 1981.

TABLE 2-2

Proposed AMP Information by Alternative

| | Prepare and Implement AMPs | Continue Present AMPs | Defer/do Not Prepare AMPs | Estimated Cost For 20 Years |
|---------------|----------------------------------|-----------------------------|------------------------------|-----------------------------------|
| Alternative 1 | 27 | 12 | 26 | \$2,382,500 |
| Alternative 2 | 27 | 12 | 26 | 2,382,500 |
| Alternative 3 | 0 | 12 | 53 | 1,775,000 |
| Alternative 4 | 14 | 12 | 39 | 2,090,000 |
| Alternative 5 | 0 | 12 | 53 | 1,775,000 |

Source: USDI, BLM, 1981.

TABLE 2-3

Proposed Vegetation Manipulation by Alternative

| | Acres | Estimated Cost |
|---------------|--------|-------------------|
| Alternative 1 | 57,420 | \$2,296,800 |
| Alternative 2 | 87,200 | 3,488,000 |
| Alternative 3 | 0 | 0 |
| Alternative 4 | 24,360 | 974,400 |
| Alternative 5 | 42,650 | 1,706,000 |

Source: USDI, BLM, 1981.

DESCRIPTION OF ALTERNATIVES

TABLE 2-4

Summary of Project Design Restrictions

Pinyon-Juniper and Sagebrush Control by Chaining Followed by Seeding

1. The patterns of the vegetation manipulation would be designed to blend with the landscape to maintain the natural appearance of the area.
2. Steep drainages (over 30-percent slope) would not be chained.
3. In chained areas, permits would be issued for salvage of trees for firewood and posts. Unsalvageable wood would be left in place or burned.
4. Seed from a mixture of plant species adapted to the specific site would be used for seeding.

Sagebrush Control by Spraying (2,4-D)

1. Prescribed spraying plans would be developed in accordance with BLM Manual 9220. Herbicide 2,4-D mixed with water at the rate of 1 to 2 lb. of acid equivalent per acre would be applied by aerial or ground methods. Contamination of water would be avoided. Spraying would not be allowed closer than 0.5 mile from agricultural lands.
2. Projects would not exceed State and Environmental Protection Agency (EPA) pollution standards. Application of chemicals would conform to EPA regulations and BLM requirements.
3. The patterns of the vegetation manipulation would be designed to blend with the landscape to maintain the natural appearance of the area.
4. Chemical spray would be applied only when winds were less than 5 miles per hour to control drift.
5. Sprayed vegetation would be left in place.

Browse Planting

1. The patterns of the vegetation manipulation would be designed to blend with the landscape to maintain the natural appearance of the area.
2. Equipment used for scalping of seedbeds would work on a contour to avoid making tracks which would collect water and start gully erosion.
3. Seeding would be accomplished with a variety of browse and forb plants to establish a plant community desirable to both livestock and big game.

DESCRIPTION OF ALTERNATIVES

TABLE 2-4 (concluded)

Plowing and Seeding

1. The patterns of the vegetation manipulation would be designed to blend with the landscape to maintain the natural appearance of the area.
2. Seeding would be accomplished with a mixture of seed which would provide a plant community desirable to livestock, big game, and other wildlife.

Burning

1. The prescribed burning plan would identify burning procedures, environmental conditions, controls, and coordination responsibilities.
2. Projects would not exceed State and EPA pollution standards.
3. Weather factors would be monitored for proper conditions prior to allowing burning.
4. Burning would be done only when ground moisture was sufficient to allow plant growth.
5. Burning would be scheduled to occur when most desirable plants were dormant.

Clear-Cutting and Seeding

1. The patterns of the vegetation manipulation would be designed to blend with the landscape to maintain the natural appearance of the area.
 2. Equipment used for scalping of seedbeds would work on a contour to avoid making tracks which would collect water and start gully erosion.
 3. Seeding would be accomplished with a variety of browse and forb plants to establish a plant community desirable to both livestock and big game.
 4. Unsalvageable wood would be left in place or burned.
-

Source: BLM Manuals.

DESCRIPTION OF ALTERNATIVES

TABLE 2-5

Summary of Environmental Consequences

| Resource and Impact Category | Current or Existing Situation | Alt. 1 Proposed Action | Alt. 2 Livestock Forage | Alt. 3 No Action | Alt. 4 No Change | Alt. 5 Wildlife Habitat |
|---|--|------------------------|-------------------------|---------------------|-----------------------|-------------------------|
| <u>Vegetation</u> | | | | | | |
| Short Term | | | | | | |
| Overutilized (Acres) | | 261,884 | 245,385 | 347,863 | 109,584 | 7,553 |
| Change to Condition of Riparian Habitat | Poor | Deteriorate | Deteriorate | Deteriorate | Deteriorate | Deteriorate |
| Long Term | | | | | | |
| Projected Production (AUMs) | 40,000 | 49,000 | 51,000 | <40,000 | 43,000 | 46,000 |
| Riparian Habitat Protected (Acres) | 0 | 30 | 0 | 0 | 0 | 55 |
| <u>Soil</u> | | | | | | |
| Short Term | | | | | | |
| Change in Soil Movement | Erosion class 40% Stable & Slight 48% Moderate | Increase | Increase | Increase | Increase | Decrease |
| Long Term | | | | | | |
| Change in Soil Movement | | Decrease | Decrease | Increase | Decrease | Decrease |
| <u>Water</u> | | | | | | |
| Short Term | | | | | | |
| Change in Water Quality | 56% High Sediment Yield Class Meets Standards | Increase | Increase | Decrease | Decrease | Increase |
| Long Term | | | | | | |
| Change in Water Quality | | Decrease | Decrease | Decrease | Increase | Increase |
| <u>Animal Life</u> | | | | | | |
| Short Term | | | | | | |
| Change in Habitat for: | | | | | | |
| Deer | Good to Excellent | Deteriorate | Deteriorate | Deteriorate | Deteriorate | Deteriorate |
| Elk | Good | Deteriorate | Deteriorate | Deteriorate | Deteriorate | Deteriorate |
| Antelope | Fair | Deteriorate | Deteriorate | Deteriorate | Improve | Improve |
| Bighorn Sheep | Good | n/a | n/a | n/a | n/a | -- |
| Fish | Fair | Deteriorate | Deteriorate | Deteriorate | Deteriorate | Deteriorate |
| Endangered Species | Fair | Deteriorate | Deteriorate | Deteriorate | Deteriorate | Deteriorate |
| Long Term | | | | | | |
| Change in Stocking for: | | | | | | |
| Deer | | Increase | No Change | No Change | Increase | Increase |
| Elk | | Increase | No Change | No Change | Increase | Increase |
| Antelope | | Increase | No Change | No Change | Increase | Increase |
| Bighorn Sheep | | Increase | n/a | n/a | n/a | Increase |
| Endangered Species | | Increase | Decrease | Decrease | No Change | Increase |
| Change in Habitat Condition for: | | | | | | |
| Fish | | Improve | Deteriorate | Deteriorate | No Change | Improve |
| Endangered Species | | Improve | Deteriorate | Deteriorate | No Change | Improve |
| <u>Livestock Grazing</u> | | | | | | |
| Change in Initial Stocking (AUMs) | 22,748 | +10,651 | +8,399 | +16,555 | 0 | -2,054 |
| Anticipated Long-Term (20 Years) Change | | Increase | Increase | No Change | Increase | Increase |
| <u>Recreation</u> | | | | | | |
| Short Term | | | | | | |
| Change in Facilities | Fair | No Change | Degrade | Degrade | No Change | No Change |
| Long Term | | | | | | |
| Change in Hunter Use | 5,683 Hunter Days | Increase | Decrease | Decrease | Increase | Increase |
| <u>Socioeconomics</u> | | | | | | |
| Short Term | | | | | | |
| Change in Income (Table 3-14) | | Increase | Increase | Increase | No Change | Decrease |
| Changes in Operator Attitude | | Negative | Positive | Positive | Negative | Negative |
| Long Term | | | | | | |
| Change in Income | | Increase | Increase | Decrease | Increase | Increase |
| Change in Attitude | | Mixed | Positive | Mixed | Mixed | Mixed |
| <u>Visual Resources</u> | | | | | | |
| | | Temporary Degradation | Temporary Degradation | Gradual Degradation | Temporary Degradation | Temporary Degradation |

Source: Chapter 4.

AFFECTED ENVIRONMENT

INTRODUCTION

This chapter describes the affected environment and the study area. The study area is the area that will be affected by the proposed project. The study area is the area that will be affected by the proposed project. The study area is the area that will be affected by the proposed project.

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THE SETTING

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CHAPTER 3

THE AFFECTED ENVIRONMENT

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THREATENED, ENDANGERED, AND SENSITIVE PLANT SPECIES

The study area is the area that will be affected by the proposed project. The study area is the area that will be affected by the proposed project. The study area is the area that will be affected by the proposed project.

CHAPTER 3

AFFECTED ENVIRONMENT

INTRODUCTION

This chapter describes the affected environment of the Ashley Creek Planning Area. Climate, air quality, and geology would not be changed by the proposed action or alternatives; however, a brief discussion is included to describe the setting for the area. This will be followed by a discussion of vegetation, soils, water resources, animal life, livestock grazing, recreation, socioeconomics, visual resources, and cultural resources which would be affected by the proposed action and alternatives.

No wild and free-roaming horses or burros are found in the planning area, nor are there any historic ranges inhabited by those animals on December 15, 1971 as specified in the Wild Horse and Burro Act. The initial wilderness inventory phase found that there were no lands which met the criteria for wilderness study/-designation as specified by the Wilderness Act of 1964.

THE SETTING

Most of the planning area is located in the Uinta Basin, a structural and topographic basin that is part of the Colorado Plateau physiographic province (Thornbury, 1965). The east-west trending Uinta Mountains rise abruptly from the Basin and form the northern boundary of the planning area. In the southwest portion, the slopes of the Basin rise progressively higher and blend into the West Tavaputs Plateau. Nine Mile and Argyle Creeks have carved through the plateau, forming dramatic canyons and cliffs along the southern boundary. The Basin is bounded by the Wasatch Mountains on the west and the Douglas Creek Arch on the east in Colorado. The southwest-flowing Green River, with an average annual flow of 5,500 cubic feet per second (cfs), is the major Basin drainage. The Duchesne and White Rivers are important tributaries. Elevations in the planning area vary from 4,611 feet to 9,785 feet above mean sea level.

The region has a semi-arid continental climate characterized by meager precipitation (approximately 6 to 20 inches per year), extreme evaporation, cold and dry winters, and hot and dry summers. Wide daily and annual variations in temperature (January average 15.6° F, July average 71.2° F) and well-defined seasons are typical. The frost-free season varies from 50 to 120 days and generally occurs from June to September. During the night, cold air drainage from higher elevations surrounding the Uinta Basin results in a high frequency of inversions and fog, especially during the winter months.

The planning area has been designated in Air Quality Class II by the U.S. Environmental Protection Agen-

cy (EPA). This classification permits moderate deterioration normally accompanying well-controlled growth. There are no major air pollution sources nor have polluted airsheds been identified.

VEGETATION

The vegetation is characteristic of the arid desert and foothill portions of the Uinta Basin section of the Colorado Plateau. The extent of each vegetation type and its production potential is governed primarily by precipitation and, to a lesser degree, by soils. The three vegetation types occupying the majority (90 percent) of the planning area are: shadscale/saltbush, big sagebrush/black sagebrush, and pinyon-juniper. Two percent is unvegetated and less than 1 percent is riparian. Table 3-1 shows the percent of allotments occupied by 20 vegetation types or subtypes.

The planning area's vegetation has been modified by man-caused activities; livestock grazing and fire prevention have caused the most extensive long-term changes. Less than 1 percent is in a natural ecological climax stage, while more than 50 percent is in a mid-seral stage. Table 3-2 shows ecological condition by allotment. It should be noted that, while climax ecological condition is considered natural potential for some range sites, this condition is not necessarily synonymous with good livestock forage or big game forage habitat conditions. Generally, riparian habitat is rated in fair condition by BLM biologists, although this type of habitat varies because of soil and moisture conditions.

Total available forage has not been inventoried for any allotment in the planning area. Forage available for livestock and big game has been estimated by 1960 range surveys and current monitoring studies. Presently, livestock and big game consume over 33,000 animal unit months (AUMs) (about 13,200 tons of air-dried forage) per year. An average of 16 acres is needed to produce 1 AUM (800 lbs of air-dried forage). Table 3-3 shows, by allotment, average vegetation utilization and the estimated AUMs available for livestock and big game. Using the Soil-Vegetation Inventory Method (SVIM), soil scientists and range conservationists mapped out soil types, series, and range sites. This data will be available to aid in determining future grazing capacity.

THREATENED, ENDANGERED, AND SENSITIVE PLANT SPECIES

Bureau of Land Management (BLM) plant species survey data and the current status review (U.S. Department of Interior [USD], Fish and Wildlife Service [FWS], 1980) indicate that there are no endangered plant species within the planning area.

AFFECTED ENVIRONMENT

The Uinta Basin hookless cactus, *Sclerocactus glaucus*, which is officially listed as threatened, does occur. Populations of *Sclerocactus glaucus* are most commonly found in rocks of cobbly soils in river terrace deposits above floodplains and in talus slopes at the base of cliffs. The most significant immediate threat to this cactus is removal by cactus collectors. Other possible threats come from potential flooding as a consequence of major dams, off-road vehicle (ORV) use, livestock trampling, and ground disturbance from oil shale development (USDI, BLM, 1981).

Table 3-4 shows current status of the sensitive plant species occurring in the planning area.

SOILS

A third order soil survey inventory was completed in 1978. This was accomplished using SVIM.

There were 110 tentative soil series identified which were grouped into 20 general soil associations (Figure 3-1). These associations are found ranging from lower stream terraces and benches up to mountain slopes. More specific soil characteristics such as soil texture, depth, slope, salinity, etc., are found in the soil survey report (U.S. Department of Agriculture [USDA], Soil Conservation Service [SCS], 1979) (USDI, BLM, 1981).

EROSION CONDITION

Erosion condition of the classified soils was identified using soil surface factors (SSF) during the soil inventory. The percentage of the planning area in each of the erosion condition classes is shown in Table 3-5. The critical areas for erosion are soils located primarily on steep slopes and Mancos shale. The present erosion condition is the result of natural geologic erosion and man's past and present uses (USDI, BLM, 1981). General sediment yield classes are shown in Table 3-6 (USDI, BLM, 1981).

WATER RESOURCES

GENERAL DESCRIPTION

The planning area is located in the Green River watershed of the Upper Colorado River Hydrologic Region. There are 64 springs and 342 streams (some intermittent) in the planning area. Lakes and reservoirs on public lands include Pelican Lake, Brough Reservoir, and the wetlands habitat development in Pariette Draw. Segments of the following perennial streams occur within the planning area: Green River, Brush Creek, Little Brush Creek, Ashley Creek, Deep Creek, Mosby Creek, Minnie Maud Creek, Argyle Creek, Nine Mile Creek, and Pariette Draw (see Figure 3-2).

Primary water use on public lands within the plan-

ning area is by livestock and big game; other uses on private land include irrigation, public and private water supplies, and livestock (USDI, BLM, 1981).

WATER QUALITY

The Utah Water Pollution Control Board, Utah Water Pollution Committee, and the Utah State Board of Health have set water quality standards to protect waterways for designated uses. Major streams and reservoirs were designated to be protected for agricultural uses (i.e., irrigation of crops and stockwatering) and other uses requiring higher quality water (USDI, BLM, 1981).

ANIMAL LIFE

TERRESTRIAL ANIMALS

Non-endangered terrestrial animals of high public interest include big game, upland game, and waterfowl species. Endangered terrestrial animals include the bald eagle, whooping crane, peregrine falcon, and possibly the black-footed ferret.

BIG GAME

Mule Deer

Deer occupy such habitats as riparian areas, pinyon-juniper, mountain brush and desert shrub. Portions of Deer Herd Units 26, 27A, and 27B are found within the planning area.

There are approximately 21,405 acres of crucial deer winter range for Deer Herd Unit 26 (Ashley-Vernal). This range is considered to be in good to excellent condition (Utah Division of Wildlife Resources [UDWR], 1981) (Figure 3-3). Pellet group and hunter harvest trend data for this herd suggest that deer populations are up from the low levels measured in 1973-74 (UDWR, 1981). The major contributing factor for this increase has probably been the suspension of antlerless deer harvests since 1973. Other factors possibly contributing to this increase include mild winters with deer using non-crucial winter ranges and above average spring and fall precipitation.

Approximately 11,550 acres of crucial yearlong deer range for Herd Unit 27A (Anthro Mountain) occurs within the planning area, mostly along the Green River drainage (Figure 3-3). Although population levels have increased slightly from the lows of 1973-74, trend data suggest deer numbers are static for this herd (UDWR, 1981).

Herd Unit 27B (Range Creek) occurs in the Nine Mile Creek area. Population trend data suggest that deer numbers are recovering from the lows of 1974-75.

AFFECTED ENVIRONMENT

Elk

As a result of transplant programs in the early 1900s, elk are found throughout the planning area. These animals use a wide variety of habitat including semi-open forests, mountain meadows, foothills, plains, and valleys. There are portions of three elk herd units.

Approximately 14,364 acres of crucial winter range for Elk Herd Units 8 (Ashley-Vernal) and 9A (Ashley-Whiterocks) occurs within the planning area. The crucial elk winter range is considered in good condition (see Figure 3-4). Population trend data indicate that the elk population is static or declining. At present, crucial winter elk range does not appear to be limiting the elk population for either of these herd units.

A limited season-long use by elk in Herd Unit 22 (Avintaquin-White River) occurs throughout Argyle Ridge and Five Mile Canyon areas. Approximately 20-30 elk from this herd unit are using public lands. Population trend data indicates this herd is increasing. In addition, productivity appears sufficiently high to increase herd numbers with the restricted annual harvest of 40-50 bull-only permits.

Pronghorn Antelope

Although indigenous to the planning area, the present antelope population is the result of reintroduction programs. Major antelope habitat use areas are sagebrush and/or desert shrub plains. Portions of two antelope herd units are found within planning area boundaries (Figure 3-5).

A small herd of 40 animals (part of Herd Unit 7 [Bonanza]) is located in the northern portion of the planning area. Approximately 83,000 acres of substantial value antelope yearlong range are provided for this unit (Figure 3-5). General observation suggests that herd numbers are stable. The major limiting factors are believed to be availability and distribution of water and illegal hunting.

About 100 animals (part of Antelope Herd Unit 8 [Myton Bench]) use the southern portion of the planning area (UDWR, 1981). Approximately 48,000 acres of crucial antelope yearlong range are provided for this unit (Figure 3-5). Aerial trend counts and productivity data show no apparent trends in population size.

Bighorn Sheep

A bighorn sheep transplant program has been proposed for the Devils and Bull Canyon Allotments. This area has been recommended as a transplant site because of its forage condition, water distribution, and remoteness.

WATERFOWL

Waterfowl distribution on public lands is closely associated with water availability. Predominate use

areas include Pariette Draw, Green River, and Pelican Lake. Areas used less extensively include Nine Mile, Ashley, Brush, and Argyle Creeks and stockwatering ponds. With the exception of Pariette Draw, where populations are increasing because of additional habitat development, waterfowl use and numbers are considered stable.

Portions of the planning area supply yearlong habitat for some waterfowl species and summer habitat for others. Pariette Draw and Argyle and Nine Mile Creeks are generally spring, summer, and fall use areas. The Green River supplies yearlong habitat. Food sources (i.e., insects, pond weeds, and cereal grains) are excellent in Pariette Draw. Quantity and quality of habitat limit waterfowl productivity on most other areas.

SAGE GROUSE

The planning area contains resident and wintering sage grouse populations. There are approximately 1,800 and 1,200 acres of crucial winter and spring sage grouse habitat, respectively (Figure 3-6). Important use areas include strutting grounds and riparian areas. The lack of good quality summer range for brood rearing appears to be the major factor limiting the numbers and distribution of sage grouse. Sage grouse harvest and strutting grounds counts are shown in Table 3-7. These data suggest a stable sage grouse population.

ENDANGERED ANIMAL SPECIES

American Bald Eagle

The planning area is part of the winter habitat for the bald eagle from November to April. Major habitat areas include the Green River and nearby lakes, rivers, and marshes surrounded by open country with available perching sites. Fish and waterfowl are the eagles' main food sources. Bald eagle use of the planning area is increasing.

Peregrine Falcon

Two active peregrine falcon aeries have been found in Dinosaur National Monument, although none have been found in the planning area. This species' major habitat use areas include steep-walled canyons, high cliffs, rivers, marshlands, and deserts. Riparian vegetation provides suitable habitat for numerous birds, many of which are prey species for the peregrine falcon. It is believed that peregrine falcons use the riparian habitat along the Green River during spring and fall migrations to and from Mexico.

Whooping Crane

The planning area is along the migratory route of the whooping crane. The wetland areas around Stewart Lake, Pelican Lake, and Ouray National Wildlife Refuge are used for resting and feeding sites both in the

AFFECTED ENVIRONMENT

spring and fall. Cranes have not been observed on public lands.

Black-footed Ferret

Black-footed ferrets have recently been reported in the planning area; however, follow-up surveys have not found them. However, the white-tailed prairie dog, a food source for the ferret, does occur. Therefore, the planning area is considered potential ferret habitat.

AQUATIC ANIMALS

Ashley Creek, Green River, Pelican Lake, and Brough Reservoir are identified as the only suitable fishing waters occurring on public lands, although other fishing waters exist within the planning area. Ashley Creek provides approximately 2.6 miles of trout habitat on public lands. Riparian condition on this creek is rated as good, and fish habitat condition is rated as good and stable (USDI, BLM, 1981). This stream sustains a naturally reproducing population of brown trout, and supports "put and take" cutthroat and rainbow trout (1,000 catchable size rainbow have been stocked annually). This stream has been designated by the UDWR for trout fishing with artificial flies only (UDWR, 1982).

UDWR inventories and classifies fisheries habitat using four criteria: physical inventory, aesthetics, availability, and productivity. Based on the numerical ratings given for each criterion, a class value of I to VI is given, with Class I being the top quality fishing waters of the state. Ashley Creek is rated as a Class III fishery.

The Green River, a Class IV fishery, flows along the eastern boundary of the planning area for 59.6 miles on private, State, Uintah and Ouray Indian Reservation and Federal, including BLM, lands. Fish habitat and riparian condition are rated as fair. Because of streamflow alterations, changes in water quality, and the introduction of exotic species, fish habitat is deteriorating. Channel catfish is the only game fish present in large numbers, having a naturally reproducing population. Although the Green River is rated as a Class IV fishery, the river provides habitat for three endangered fishes (Colorado squawfish, humpback chub, and bonytail chub).

Brough Reservoir, a Class II fishery, is a small irrigation reservoir of 150 surface acres. This reservoir supports a rainbow and cutthroat trout "put and take" fishery. In 1977, 25,000 smallmouth bass were stocked in Brough and appear to be reproducing, although poor growth limits their contribution to the fishery (UDWR, 1979).

Pelican Lake, a Class I warm-water fishery (Crosby, 1982), has a surface area of 1,680 acres. About 25 percent (4.5 miles) of the lakeshore is on public lands with the balance of the lakeshore on State and private

lands. This reservoir is popular state-wide for its year-round bluegill and largemouth bass fishing. The habitat condition rates as excellent and stable (USDI, BLM, 1981).

ENDANGERED FISH SPECIES

As stated above, the Green River provides habitat for three endangered fishes: the Colorado squawfish, humpback chub, and bonytail chub. The entire Green River within the planning area has been recommended as critical habitat for the Colorado squawfish by the FWS (USDI, FWS, 1976). Amendments to the Endangered Species Act have delayed official designations of critical habitat, but the importance of the Green River to the three endangered species has been confirmed by FWS field investigations. The Vernal District considers the entire Green River within the Vernal District as critical habitat for Colorado squawfish and as essential habitat for the bonytail and humpback chubs.

LIVESTOCK GRAZING

NUMBER OF LIVESTOCK OPERATORS

There are presently 60 separate livestock operators or companies having 92 livestock operations in the planning area. Of the 60 operators, 42 run cattle, 14 run sheep, and 4 run both.

The number of livestock operators in the planning area is compared to Utah and ten other western states in Table 3-8. Appendix 1 lists the active preference, average use, kind of livestock, and season of use for each allotment. Figure 3-7 compares average use with active preference.

SIZE AND KIND OF LIVESTOCK OPERATIONS

Ranching operations in the planning area are categorized into kind of livestock, grazing size groups, and number of livestock operators in Table 3-9. The "average ranch" applies to the majority of individual operations in a particular category, although differences occur among individual operations.

Livestock operations are primarily cow-calf and ewe-lamb, although some of the cow-calf operators occasionally run an additional steer operation. A base herd of cows, each cow preferably with a calf, are grazed as a unit during the summer. Only cows without calves are grazed during the winter. About 5 to 10 percent of the cattle are purebreds.

Ewe-lamb operations consist of a base herd (band) of ewes with one or more lambs per ewe.

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SEASON OF USE

Eighty-two percent of the livestock operators in the planning area rely heavily on spring, winter, and fall grazing. About 70 percent of the sheep grazing is conducted in the winter and spring and the remaining use is made during fall and summer (mostly fall). Because snow is the primary water source during winter months on some allotments, these allotments are used lightly or not at all in dry years. About 60 percent of the cattle use occurs in the winter, spring, and fall. A further breakdown of livestock grazing by season of use is given in Table 3-10.

Typically, livestock are grazed or fed on private lands until early spring; grazed on public and State lands until summer; and grazed on the higher elevations, generally National Forest lands, until fall (September 1 or October 1). Livestock are then grazed on public lands, and then grazed on private lands or allowed to graze public lands during the winter season (December 1 to March 30). However, summer range is provided for 13 operators in the planning area.

MANAGEMENT LEVELS AND PRACTICES

Allotment Management Plans (AMPs) have been developed on 12 allotments. Generally, livestock grazing has been allowed with little control of movement within allotments except for limited herding, salting, or fencing. Individual operator's practices vary depending on their time on the job (full or part time), breeding programs, breeds of cattle, kinds and methods of maintaining range improvements, livestock handling procedures, and supplemental feeding and salting practices.

Calving generally takes place from March through April on private farms and ranches and, occasionally, on the allotments. Calves weigh between 120 and 200 lbs. when they are taken to spring ranges. When cattle are removed from summer ranges around October, calves are weaned and sold at weights between 350 and 400 lbs.

Lambing occurs in April and May. The lambs are usually cut out of the band and sold in October or November after being raised mostly on non-BLM lands and land outside the planning area. At this time they usually weigh between 75 and 85 lbs.

RECREATION

The most frequently engaged in outdoor recreation activities of Uinta Basin residents are, in ranked order, fishing, driving for pleasure, camping, big game hunting, and swimming. The vast majority of these activities takes place within the Basin (Institute of Outdoor Recreation and Tourism, 1978). The public lands within the planning area offer diverse opportunities for

outdoor recreation and are used for much of the dispersed, undeveloped portion of this activity.

Developed recreation facilities on public lands are limited to five sites along a 2-mile segment of Dry Fork Canyon, a site at the Sand Wash River Ranger Station, and Pelican Lake (see Figure 3-8).

Dispersed recreation sites/areas on public lands are listed in Table 3-11 and shown in Figure 3-8. Other recreational activities, in addition to those identified in the table, include antelope hunting in the Myton Desert. Five to 15 antelope hunting permits have been issued annually for this area. The desert is also a sightseeing attraction in the spring when wildflowers are in bloom. Viewing raptors (including eagles) and antelope also draws some sightseers.

The northern portion of the planning area is popular for elk and deer hunting in the fall, and snowmobiling and elk and deer viewing in the winter. Big game hunting accounts for approximately 50 percent of the hunter days. Estimated big game hunter days on public lands for 1978 are: deer — 4,320; elk — 1,315; and antelope — 48 (USDI, BLM, 1980).

ORV use is concentrated in the Buckskin Hills area northeast of Vernal. Some ORV use, much of which is hunting and fishing related, occurs in most other areas. ORV use in the southern portion of the planning area is less intense due, in large, to the distance from population centers.

The Green River constitutes one of the prime recreational resources in the planning area. From Dinosaur National Monument to Range Creek, in Emery County, the Green River is an Inventory River Segment. In the Nationwide Rivers Inventory, it was determined that this segment met the criteria for study for inclusion in the National Wild and Scenic Rivers System. To protect the values of rivers/segments identified in the inventory, a Presidential Memorandum was issued on August 2, 1979.

SOCIOECONOMICS

INTRODUCTION

Duchesne and Uintah Counties have experienced rapid growth since 1970. The population of Duchesne County increased from 7,299 people in 1970 to 12,565 people in 1980. This represents a 72-percent increase or an annual growth rate of 5.6 percent.

The population of Uintah County increased from 12,684 people in 1970 to 20,506 people in 1980, a 62-percent increase or an annual growth rate of 4.9 percent. During this same time the State of Utah population increased by 38 percent, an annual growth rate of 3.3 percent. Thus, in comparison, both Duchesne and Uintah Counties grew at rates signifi-

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cantly higher than the State average (U.S. Department of Commerce [USDC], 1981b).

The recent employment and population increases in Duchesne and Uintah Counties have resulted from the exploration and development of the area's energy resources. From 1976 through 1981 total non-agricultural employment increased by 211 percent in Duchesne County and 64 percent in Uintah County, an annual growth rate of 13.3 percent and 8.6 percent for each county, respectively (Utah Department of Employment Security, 1981). The increased employment was led by the mining (including oil and gas), construction, services, and trade sectors. Only the farm sector has had a decrease in employment in both counties, experiencing 7.5- and 21-percent decreases from 1970-78 in Duchesne and Uintah Counties, respectively. In 1979, only 2 percent of all wage and salary employment was from the farm sector (USDC, 1981a). Future growth is expected because of oil shale and tar sand development.

Traditionally, agriculture has played an important role in the economies of Duchesne and Uintah Counties. However, the relative importance of this sector has declined. In 1979 personal income (total labor and proprietors' income) for the two counties was \$172,453,000. (Duchesne County was \$57,856,000 and Uintah County was \$114,597,000.) Of this amount, 2.7 percent of the two-county total came from the farm sector, with Duchesne and Uintah Counties receiving 5.4 percent and 1.5 percent, respectively (USDC, 1981c).

In 1978 the value of livestock and livestock products sold in Duchesne and Uintah Counties was \$12,565,000 and \$10,477,000, respectively. The total in the two-county area was \$23,042,000, 90 percent of the total agricultural products sold (USDC, 1981c).

RANCH ECONOMICS

The significance of the grazing program in the planning area is more important when considering the operators that use it. The factors which affect a livestock operator's annual income are: (1) price per unit weight at sale; (2) weight per animal; (3) number of animals; and (4) costs of raising the animal to marketability. BLM management has the potential of affecting all but the price per unit weight.

BLM-allocated AUMs may be transferred from one operator to another. The permit value of an AUM is estimated at about \$50.00 on the current market. The dollar value given by one operator (buyer) to induce a present permit holder (seller) to transfer his permit is known as the permit value of an AUM. This permit value may have a significant bearing on the rancher's capital value, because it is part of the ranch's overall value. This affects the rancher's ability to secure loans and the total value of the operation. However, because

the permits were granted to permittees without cost and may be rescinded without payment by BLM, a value is not officially recognized for these permits by the government.

Appendix 4 displays the budgets for the average ranch categories (as described in the Livestock Grazing section) and shows the revenues and expenses for the "average ranch" within each category. These budgets also provide baseline data for impact analysis. Partial budget information relative to these categories is presented in Table 3-12. Conclusions which apply to the "average ranch" would also apply to the majority of individual operations in a particular category. However, it should be noted that wide differences may occur among individual operators within each category.

RECREATION INCOME

Expenditure estimates attributable to big game hunting are presented in Table 3-13. This estimate was based on a wildlife user survey conducted in 1975. The reported expenditures were estimated and indexed to 1979 data using the Consumer Price Index. Total income (both direct and indirect) in 1979 was \$467,600 (0.3 percent of the total income for the two-county area).

Increasing populations and incomes influence the demand for hunting opportunities. Based on the projected energy-related population and income increases in the Uinta Basin, demands for hunting opportunities in the planning area could increase.

ATTITUDES AND LIFESTYLES

Uinta Basin residents have traditionally regarded the natural environment as important to personal well-being, although emphasis is also placed on controlled economic growth, particularly as related to energy development. In response to a survey concerning the alternatives of economic growth versus rural character (Opinion Sampling Research Institute, 1975), 63 percent of Vernal residents indicated economic growth was important, 26 percent felt that rural character was important, and 11 percent were undecided.

Much of the direction of Uinta Basin politics and government is guided by long-time residents who have traditional backgrounds in ranching and agriculture. They are supportive of livestock interests, but also recognize the economic benefits from tourism (outdoor recreation) and energy development. Most newcomers are associated with energy-related development and are actively interested in outdoor recreation. Energy-related growth has already caused substantial changes in population mix and patterns of everyday life in the communities within the planning area.

An attitudinal survey in the Vernal area (Geertsen et al., 1975) indicated that 79 percent of residents said their community was a good or excellent place to live and 64 percent felt they were fully accepted as a part of the community. In response to whether the community was a good place to raise a family, 49 percent said it was a strong point and 38 percent said it was satisfactory. Asked if the community provided opportunities to earn a liveable income, nearly 43 percent said it was satisfactory and 33 percent said it was a community strength.

Frequently, livestock operations on planning area allotments have been a traditional lifestyle over several generations. As a consequence, working in outdoor employment and directly experiencing the region's natural resources are important lifestyle aspects. Livestock operators regard the region as a good place to live and raise a family and, generally, would not consider relocating to another area for alternative employment.

These data (Opinion Sampling Research Institute, 1975, and Geertson et al., 1975) are indicative of a high level of social well-being, and resource management issues are generally not strongly polarized between local user groups.

VISUAL RESOURCES

In accordance with BLM Manual 8400, the scenic quality, visual sensitivity, and distance zone (see Glossary) of visual resources in the planning area have been evaluated. Based on those factors, visual resource management (VRM) classes were assigned which specify the objectives for managing the visual resources.

SCENIC QUALITY

The areas rating highest in scenic quality are found in the northeast, northwest, and southern portions of the planning area. The Garden Creek-Six Mile Draw area near Diamond Mountain in the northeast corner of the planning area is a scenic, rugged, roadless area vegetated with brush and pinyon-juniper trees. Dry Fork and Ashley Creek Canyons in the northwest have steep rock walls forming narrow canyons with diverse vegetation. The cultural intrusions (homes, fences, and farm buildings) in the canyons do not detract appreciably from the scenic quality. Nine Mile and Argyle Creek Canyons are also aesthetically rich with canyons, rock cliffs, and diverse vegetation and have few cultural intrusions (ranch-related structures or modifications).

The areas rating next highest in scenic quality are those bordering the Green River along the eastern edge of the planning area and the Twelve Mile Wash-Halfway Hollow areas extending northwest from the Green River to the west boundary. The terraced rock

formations, contrasting vegetation, and wildlife enhance the visual aesthetics along the river. Cultural intrusions along the river, including power lines, water and oil pumping facilities, and farming/ranching structures are few in number and generally do not impair scenic quality. The Twelve Mile Wash-Halfway Hollow area is generally flat, broken occasionally by low ridges, rolling hills, and washes. Vegetation consists mostly of grass and brush with more abundant growth including trees along drainages and on northern hill slopes.

Generally, the remainder of the planning area is visually homogenous, consisting of flat to rolling rangeland with occasional low rugged ridges and hills. Such areas are visually uninteresting and common in the Uinta Basin. Vegetation consists mostly of low brush, grasses, and pinyon-juniper trees. Cultural intrusions are numerous and varied. Most are concentrated in the urban and agricultural developments of Ashley Valley. In less populated areas, intrusions include farm and ranch structures, chainings, power lines, fences, and oil production facilities and equipment.

VRM CLASSES

The VRM classifications assigned to the planning area are shown in Figure 3-9. Management objectives for each class are as follows:

Class II. Management activities/modifications of the environment should not be evident in the characteristic landscape. Changes may be visible but should not attract attention.

Class III. Changes caused by management activities may be evident but should remain subordinate to the existing landscape.

Class IV. Changes may attract attention and be dominant landscape features but should reflect the basic elements (form, line, color, and texture [see Glossary]) of the existing landscape.

Class V. Changes in the existing landscape are needed or may add visual variety to an area. This applies to areas where the natural landscape has been so modified or disturbed that rehabilitation is necessary to bring it back into harmony with the surrounding landscape.

CULTURAL RESOURCES

ARCHAEOLOGY AND HISTORY

Only a small percentage of the planning area has been inventoried for cultural resources; however, approximately 250 sites representing fairly continuous human occupation and use for the past 5,000 years have been recorded. Many types of sites are represented including stratified rock shelters, camps, vil-

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lages, lithic scatters consisting of flaking debris, rock art panels, and various representations of historic Euro-American activity (cabins, trails, etc.). Only a small percentage of the recorded sites in this area can be attributed to specific cultures or time periods.

Traces of the Archaic occupation of northeastern Utah (5,000 B.C.-A.D. 500) are scarce in the planning area; thus far only two sites have been recorded. Early occupation of the region by the Fremont culture (about A.D. 650 to 950) has been substantially documented and is indicated by a number of sites. Ute and Shoshoni entered the area sometime between 650 and 1,000 years ago. Their settlements were located near water and the remains of these campsites are fairly common along creeks and minor tributaries. This way of life was interrupted in 1824 by the first explorers.

During the historic period, many people passed through the planning area, but there is no evidence of permanent Euro-American residence until the 1880s with the establishment of Ft. Duchesne. In 1886, the Nine Mile Road was constructed, thus increasing accessibility and settlement in the area. Fourteen years later the Uintah and Ouray Indian Reservation was opened for homesteading. Because of the signifi-

cant historical activity in the region, it is likely that sites eligible for National Register nomination are present in the planning area.

The Red Mountain Area of Critical Environmental Concern (ACEC) has been proposed near Vernal to protect the variety of cultural resources present. Nine Mile Canyon has long been famous for the abundance and quality of its rock art and its accessibility. Numerous rock art panels of various sizes are clearly visible from a graveled road which passes through the upper portion of the canyon. These sites are important in tracing patterns and processes of prehistoric trade and travel.

PALEONTOLOGY

There are several exposed fossil-bearing formations in the planning area. Among the more important are the Morrison, Uinta, and Green River. These formations are known to contain fossil remains of vertebrates, invertebrates, plants, and trace fossils. Many of these have been useful in tracing the evolution of various species (i.e., nearby Dinosaur National Monument).

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TABLE 3-1

Percentage of Vegetation Types by Allotment

| Allotment | Annual Forbs | ATCA2 | ATCO | ATCO4 | ATCO/ ATNUC | ARARN | ARTR2 | CEM02 | CHNA2 | HIJA | JUOS | PIPO | PUTR2 | SAVE | Gully | Bad- lands | Wetland/ Marsh- Riparian | CHVI8 | PSME | POTR5 | Acres ^a of Estab. Seeding |
|-----------------------|-----------------|-------|------|-------|----------------|-------|-------|-------|-------|------|------|------|-------|------|-------|---------------|--------------------------------|-------|------|-------|---|
| Antelope Powers | | | | | 1 | 9 | 2 | | | | 18 | | | 6 | | | | 63 | | | |
| Argyle Ridge | | | | | | | 11 | 42 | | | 9 | | | | | | <1 | | 30 | 8 | |
| Asphalt Ridge | | | | | | | 80 | | | | 20 | | | | | | | | | | |
| Big Wash | | | | | | | | | | | 100 | | | | | | | | | | |
| Brush Creek | | | 34 | | | | 42 | 13 | | | 11 | | | | | | | | | | 365 |
| Bull Canyon | | | 76 | | | | 19 | | | 5 | | | | | | | <1 | | | | |
| Canal | 5 | | 4 | | | 2 | 89 | | | | | | | | | | | | | | |
| Coalmine Basin | | | | | | | 65 | | | | 35 | | | | | | | | | | 2,300 |
| Cook | | | 56 | | | | 21 | | | | 13 | | | | | 10 | <1 | | | | |
| Cottonwood Spring | | | 1 | | | | 41 | | | | 58 | | | | | | | | | | 3,520 |
| Current Canyon | | | | | | | 11 | | | | 89 | | | | | | <1 | | | | |
| Deep Creek | | | | | | 27 | 24 | 19 | | | 13 | 17 | | | | | | | | | |
| Devils Canyon | | | 2 | | | 42 | 12 | | | | 43 | | | 1 | | | <1 | | | | |
| Diamond Rim | | | | | | | 6 | | | | 94 | | | | | | | | | | |
| Dinosaur Park | | | 39 | | | | 37 | | | | 15 | | | 9 | | | | | | | |
| Donkey Flat | | | 4 | | | | 43 | | | | 53 | | | | | | | | | | 3,541 |
| Dry Fork | | | | | | | 8 | | | | 59 | 3 | 30 | | | | | | | | |
| East Huber | <1 | | 51 | | | 2 | 40 | | 5 | | 18 | | | | 1 | | | | | | 700 |
| East Little Mtn. | | | | | | | 75 | 7 | | 2 | | | | | | | | | | | |
| Eight Mile Flat | | | | 90 | 3 | | | | | | | | | 3 | | | 2 | | | | |
| Five Mile | | | | | | | 12 | | | | 88 | | | | | | | | | | |
| Flue Knoll-Twin | | | 43 | | | 48 | | | | 6 | | | | 3 | | | | | | | |
| Knolls | | | | | | | | | | | | | | | | | | | | | |
| Green River Bottoms | | | 72 | | | 2 | | | | | | | | 26 | | | <1 | | | | |
| Hacking | | | | | | | 35 | | | | 65 | | | | | | | | | | |
| Halfway Hollow | 12 | 2 | 19 | | | | 66 | | | | | | | | 1 | | <1 | | | | |
| Holmes | | | 55 | | | | 12 | | | | 33 | | | | | | | | | | |
| Horseshoe Bend | | 43 | 33 | | | | 18 | | | | | | | 6 | | | <1 | | | | |
| Hungry Hollow-Pete's | | | 42 | | 3 | 20 | | | | 4 | 22 | | | 8 | | | 1 | | | | |
| Ridge | | | | | | | | | | | | | | | | | | | | | |
| Island Park | | | | | | | 61 | | | | 39 | | | | | | | | | | 1,500 |
| Johnson | | | | | | | 31 | | | | 69 | | | | | | | | | | |
| Leers Canyon | | | | | | | 15 | 4 | | | 79 | | | | | | | | 2 | | |
| Little Desert | | | 67 | | | 27 | | | | | 1 | | | 5 | | | | | | | |
| McFarley Flat | | | 4 | | | | | | | | 77 | | | 19 | | | | | | | |
| Middleton-North | | | 96 | | | | 4 | | | | | | | | | | | | | | |
| Tullis | | | | | | | | | | | | | | | | | | | | | |
| Mosby | | | | | | | 53 | | | | 39 | | 8 | | | | | | | | |
| Ouray Road | 15 | | 21 | | | 14 | 17 | | 21 | <1 | | | | | 9 | 3 | <1 | | | | |
| Ouray Valley | | | | | | | | | | | | | | | | | | | | | |
| Paddy's Gap | | | 59 | | | | | 1 | | | 40 | | | | 100 | | | | | | |
| Palmer | | | 2 | | | | | | | | 98 | | | | | | | | | | |
| Parley Canyon | | | | | | | 7 | | | | 93 | | | | | | <1 | | | | |
| Pelican Lake | | 22 | 21 | | | | | | 17 | <1 | | | | | 4 | 36 | <1 | | | | |
| Perry | | | | | | | 17 | | | | 83 | | | | | | | | | | |
| Powell (Ashley Creek) | | | 100 | | | | | | | | | | | | | | | | | | |
| Powell (Twelve Mile) | | | 21 | 13 | | | 24 | 15 | | 12 | | | | 1 | | 14 | | | | | |
| Red Mountain | | | | | | | 16 | 7 | | | 63 | | | 14 | | | | | | | |
| Rich & Stetson | | | 29 | | | | 71 | | | | | | | | | | | | | | |
| S. J. Hatch | | | 53 | | | | 20 | 2 | | | 25 | | | | | | | | | | 1,517 |
| Sadler | | | 100 | | | | | | | | | | | | | | | | | | |
| Shindy | | | | | | | 41 | | | | 59 | | | | | | | | | | 800 |
| Shiner | | | 57 | | | | 29 | | | | 5 | | | 1 | | 8 | | | | | 2,000 |
| Smelter Spring | | | | | | 7 | 42 | | | | 10 | 25 | 16 | | | | | | | | |
| Snyder Spring-Step | | | 37 | | | 30 | 1 | | | 4 | 21 | | | 6 | | | <1 | | | | |
| Ant | | | | | | | | | | | | | | | | | | | | | |

AFFECTED ENVIRONMENT

TABLE 3-1 (concluded)

| Allotment | Annual Forbs | ATCA2 | ATCO | ATCO4 | ATCO/ ATNUC | ARARN | ARTR2 | CEM02 | CHNA2 | HIJA | JUOS | PIPO | PUTR2 | SAVE | Gully | Bad- lands | Wetland/ Marsh- Riparian | CHVI8 | PSME | POTR5 | Acres ^a of Estab. Seeding |
|--------------------------------|-----------------|-------|-------|-------|----------------|-------|-------|-------|-------|------|-------|------|-------|------|-------|---------------|--------------------------------|-------|------|-------|---|
| South Tullis | | | 100 | | | | | | | | | | | | | | | | | | |
| Spring Creek | | | | | | | 30 | 9 | | | 59 | | | 2 | | | | | | | 26 |
| Sunshine Bench | | | 100 | | | | | | | | | | | | | | | | | | |
| Twelve Mile | | 10 | | | | | 79 | | <1 | | 7 | | | | 4 | | | | | | |
| Water Canyon 1 | | | | | | | | 71 | | | | | | | | | | | 24 | 5 | |
| Water Canyon 2 | | | | | | | 3 | | | | 97 | | | | | | <1 | | | | |
| Wells Draw | | | 46 | | | 22 | 4 | | | | 26 | | | 2 | | | | | | | |
| West Huber | 3 | | | | | | 90 | | | | | | | 7 | | | | | | | |
| West Little Mountain | | | | | | | 74 | 21 | | | 5 | | | | | | | | | | |
| West Pelican Lake | | 8 | | | 50 | | | | 26 | 16 | | | | | | | | | | | |
| Wetlands | | | 58 | | 16 | | | | | | | | | 10 | | | 16 | | | | |
| Willow Spring | | | | | | | 38 | | | | | | 62 | | | | | | | | 1,200 |
| Young | | 22 | 18 | | | 22 | 6 | | | 4 | | | | 8 | 20 | | | | | | |
| Percentage of Planning Area | 0.65 | 0.88 | 28.96 | 2.14 | 1.04 | 9.82 | 16.69 | 3.04 | 1.14 | 1.09 | 24.94 | 0.09 | 0.49 | 2.94 | 0.66 | 1.36 | 0.69 | 1.78 | 1.27 | 0.33 | |

Source: USOI, BLM, 1981.

^aThese seedings are primarily crested wheatgrass with browse in some areas. These areas were considered part of the percent of native vegetation.

Key:

| | |
|------------|-----------------------------|
| ATCA2 | Four-wing saltbush |
| ATCO | Shadscale |
| ATCO4 | Mat saltbush |
| ATCO/ATNUC | Shadscale, nuttall saltbush |
| ARARN | Black sagebrush |
| ARTR2 | Big sagebrush |
| CEM02 | Birchleaf, mtn. mahogany |
| CHNA2 | Rubber rabbitbrush |
| HIJA | Galleta (curlygrass) |
| JUOS | Utah juniper |
| PIPO | Ponderosa pine |
| PUTR2 | Bitterbrush |
| SAVE | Greasewood |
| CHVI8 | Douglas rabbitbrush |
| PSME | Douglas fir |
| POTR5 | Quaking aspen |

AFFECTED ENVIRONMENT

TABLE 3-2

Ecological Condition by Allotment

| Allotment | Ecological Condition (Acres) | | | | |
|-----------------|------------------------------|--------|--------|--------|------------------|
| | Early | Mid | Late | Climax | Badland and Rock |
| Antelope Powers | 489 | 6,250 | 11,765 | 179 | 149 |
| Argyle Ridge | 206 | 4,734 | 4,295 | -- | 609 |
| Asphalt Ridge | 31 | 448 | 195 | -- | 130 |
| Big Wash | -- | 2,687 | 1,798 | -- | -- |
| Brush Creek | 2,479 | 6,100 | 4,600 | -- | 808 |
| Bull Canyon | 22 | 7,561 | 4,175 | -- | 3,885 |
| Canal | 144 | 2,350 | -- | -- | 487 |
| Coalmine Basin | 403 | 3,331 | 500 | -- | 63 |
| Cook | 685 | 3,772 | 919 | 532 | 1,280 |
| Cottonwood Spr. | 573 | 7,056 | 3,903 | -- | 1,955 |
| Currant Canyon | 182 | 1,107 | 3,494 | -- | 1,612 |
| Deep Creek | -- | 71 | 127 | -- | 28 |
| Devils Canyon | 2,942 | 9,562 | 2,574 | -- | 3,310 |
| Diamond Rim | 720 | 1,336 | 379 | -- | 379 |
| Dinosaur Park | 469 | 439 | 110 | -- | 294 |
| Donkey Flat | 1,372 | 2,868 | 857 | -- | 189 |
| Dry Fork | 514 | 2,280 | 1,747 | -- | 849 |
| East Huber | 422 | 12,926 | 2,053 | -- | 780 |
| East Little | -- | 1,251 | 1,028 | -- | -- |
| Mountain | | | | | |
| Eight Mile Flat | -- | 10,626 | 233 | -- | 817 |
| Five Mile | 2,091 | 7,973 | 262 | -- | 2,745 |
| Flue Knoll-Twin | 289 | 8,831 | 563 | -- | 364 |
| Knolls | | | | | |
| Green River | 994 | 2,866 | -- | -- | 1,988 |
| Bottoms | | | | | |
| Hacking | 196 | 432 | -- | -- | 6 |
| Halfway Hollow | 141 | 2,179 | 467 | -- | 697 |
| Holmes | 55 | 89 | 305 | -- | 63 |
| Horseshoe Bend | 930 | 1,399 | 22 | -- | 234 |
| Hungry Hollow- | 377 | 27,045 | 8,306 | -- | 1,970 |
| Pete's Ridge | | | | | |
| Island Park | 945 | 2,696 | 2,714 | -- | 304 |
| Johnson | -- | 742 | -- | -- | 2 |
| Leers Canyon | 809 | 4,133 | 1,887 | 988 | 1,168 |
| Little Desert | 291 | 14,243 | 12,791 | -- | 1,744 |
| McFarley Flat | 3,366 | 2,257 | 316 | -- | 201 |
| Middleton-North | 145 | 505 | 738 | -- | 4 |
| Tullis | | | | | |
| Mosby | 222 | 737 | 1,136 | -- | 224 |
| Ouray Road | 3,446 | 6,912 | 2,175 | -- | 3,966 |

(continued)

AFFECTED ENVIRONMENT

TABLE 3-2 (concluded)

| Allotment | Ecological Condition (Acres) | | | | |
|------------------------|------------------------------|----------------|----------------|-------------|------------------|
| | Early | Mid | Late | Climax | Badland and Rock |
| Ouray Valley | 80 | 184 | 13 | -- | 270 |
| Paddy's Gap | 187 | 3,727 | 167 | -- | 2 |
| Palmer | 494 | 439 | 134 | -- | 88 |
| Parley Canyon | 5,602 | 7,327 | -- | -- | 1,437 |
| Pelican Lake | 1,924 | 1,259 | 705 | -- | 2,021 |
| Perry | 475 | 1,355 | 25 | -- | 11 |
| Powell (Ashley Creek) | 40 | 650 | 611 | -- | 118 |
| Powell (Twelve Mile) | 1,225 | 3,333 | 616 | -- | 1,196 |
| Red Mountain | 2,194 | 1,969 | 806 | -- | 2,584 |
| Rich and Stetson | 132 | 39 | 341 | 28 | 2 |
| S. J. Hatch | 7,025 | 8,101 | 5,169 | -- | 111 |
| Sadlier | -- | 55 | 465 | -- | 163 |
| Shindy | 617 | 1,461 | 696 | -- | 303 |
| Shiner | 5,621 | 18,120 | 13,192 | 175 | 2,139 |
| Smelter Spring | -- | 189 | 217 | -- | 65 |
| Snyder Spring-Step Ant | 2,041 | 21,092 | 9,526 | -- | 1,361 |
| South Tullis | 190 | 506 | 4 | -- | 64 |
| Spring Creek | 1,254 | 1,450 | 209 | -- | 1,403 |
| Sunshine Bench | 181 | 608 | 2,378 | -- | 122 |
| Twelve Mile | 590 | 6,308 | 238 | -- | 1,132 |
| Water Canyon 1 | 361 | 362 | 1,688 | -- | -- |
| Water Canyon 2 | 248 | 3,323 | 298 | -- | 1,091 |
| Wells Draw | 530 | 20,416 | 4,177 | 65 | 1,326 |
| West Huber | 293 | 1,797 | 1,402 | -- | 494 |
| West Little Mountain | 18 | 721 | 148 | -- | 56 |
| West Pelican Lake | 799 | 834 | 710 | -- | 105 |
| Wetlands | 4,055 | 8,891 | 1,716 | -- | 936 |
| Willow Spring | -- | 680 | 224 | -- | 142 |
| Young | 1,220 | 1,458 | 393 | -- | 1,463 |
| Totals | 63,346 12% | 286,448 54% | 122,702 23% | 1,967 1% | 53,509 10% |

Source: USDI, BLM, 1981 and USDA, Soil Conservation Service, 1976.

AFFECTED ENVIRONMENT

TABLE 3-3

Estimated Forage Production
and Vegetation Utilization

| Allotment | Livestock Grazing Capacity | | Current Livestock and Big Game | |
|-------------------------------|--------------------------------|---|--|--|
| | Based on 1960 Survey (AUMs) | Based on 50% Utilization (AUMs) ^a | Competitive Use (AUMs) ^b | Average Annual Utilization (%) ^c |
| Antelope Powers | 1,600 | 1,475 ^a | 804 | 31 |
| Argyle Ridge | 500 | 183 | 468 | 52 |
| Asphalt Ridge | 54 | -- | 32 | n/a |
| Big Wash | -- | 700 ^a | 405 | 41 |
| Brush Creek | 822 | -- | 1,041 | n/a |
| Bull Canyon | 555 | -- | 938 | n/a |
| Canal | 224 | 241 | 216 | 45 ^c |
| Coalmine Basin | -- | 901 ^a | 752 | 42 |
| Cook | 454 | 645 | 210 | 22 |
| Cottonwood Spring | 1,208 | 1,374 ^a | 653 | 35 |
| Currant Canyon | 122 | -- | 268 | n/a |
| Deep Creek | 33 | -- | 24 | n/a |
| Devils Canyon | 634 | 989 | 798 | 35 ^c |
| Diamond Rim | 200 | -- | 210 | n/a |
| Dinosaur Park | 97 ^d | -- | 111 | n/a |
| Donkey Flat | | 488 ^a | 708 | 50 |
| Dry Fork | 577 | 244 | 442 | 48 ^c |
| East Huber | 1,168 | 846 | 379 | 26 ^c |
| East Little Mtn. | -- | 333 ^a | 321 | 48 |
| Eight Mile Flat | 1,069 | 547 | 316 | 29 |
| Five Mile | 578 | 568 | 886 | 62 ^c |
| Flue Knoll-Twin Knolls | 822 | 790 | 546 | 35 |
| Green River Bottoms | 224 | 400 ^a | 350 | 49 |
| Hacking | 91 | -- | 77 | n/a |
| Halfway Hollow | 225 | 180 | 91 | 56 ^c |
| Holmes | 74 | 37 | 57 | 58 ^c |
| Horseshoe Bend | 145 | 99 ^a | 118 | 59 |
| Hungry Hollow-Pete's Ridge | 2,098 | 2,336 | 683 | 43 ^c |
| Island Park | 304 | -- | 147 | n/a |
| Johnson | 92 | 76 | 96 | 43 ^c |
| Leers Canyon | 353 | -- | 506 | n/a |
| Little Desert | 1,769 | 2,293 ^a | 1,554 | 33 |
| McFarley Flat | 361 | 289 | 377 | 42 ^c |
| Middleton-North Tullis | 93 | -- | 116 | n/a |
| Mosby | 265 | 205 | 292 | 49 ^c |
| Ouray Road | 1,321 | 655 | 496 | 39 ^c |

TABLE 3-3 (concluded)

AFFECTED ENVIRONMENT

| Allotment | Livestock Grazing Capacity | | Current Livestock and Big Game | |
|---------------------------|--------------------------------|---|--|--|
| | Based on 1960 Survey (AUMs) | Based on 50% Utilization (AUMs) ^a | Competitive Use (AUMs) ^b | Average Annual Utilization (%) ^c |
| Ouray Valley | 44 | 62 | 44 | 28 |
| Paddy's Gap | 307 | -- | 317 | n/a |
| Palmer | 91 | 121 | 94 | 45 ^c |
| Parley Canyon | 263 | 275 | 513 | 60 ^c |
| Pelican Lake | 697 | -- | 187 | n/a |
| Perry | 155 | -- | 120 | n/a |
| Powell (Ashley Cr.) | 195 | -- | 115 | n/a |
| Powell (Twelve Mi.) | 327 | 386 | 95 | 22 |
| Red Mountain | 328 | -- | 571 | n/a |
| Rich & Stetson | 56 | -- | 81 | n/a |
| S.J. Hatch | 2,408 | ^d | 1,193 | n/a |
| Sadlier | 81 | -- | 44 | n/a |
| Shindy | -- | 240 ^a | 140 | 39 |
| Shiner | -- | 3,166 ^a | 1,757 | 34 |
| Smelter Spring | 47 | 20 | 56 | 56 ^c |
| Snyder Spring-Step Ant | 3,645 | 1,814 | 1,202 | 33 |
| South Tullis | 43 | -- | 59 | n/a |
| Spring Creek | 182 | 167 | 275 | 57 ^c |
| Sunshine Bench | 226 | -- | 149 | n/a |
| Twelve Mile | 602 | 601 | 120 | 36 |
| Water Canyon 1 | 141 | 151 | 216 | 45 ^c |
| Water Canyon 2 | 178 | 238 | 144 | 30 ^c |
| Wells Draw | 2,144 | 1,641 | 1,393 | 38 |
| West Huber | 337 | 374 | 273 | 34 |
| West Little Mtn. | 124 | -- | 138 | n/a |
| West Pelican Lake | 251 | -- | 225 | n/a |
| Wetlands | 994 | 1,200 ^a | 805 | 43 |
| Willow Spring | 172 | 120 | 104 | 32 ^c |
| Young | 313 | -- | 158 | n/a |

Source: USDI, BLM, 1981.

^aOn allotments having AMPs, 60-percent vegetation utilization is used.

^bThree-year average livestock use plus calculated livestock forage used by big game.

^cAllotments with only 1 year of utilization data available. n/a refers to allotments where utilization studies were not done.

^dVegetation manipulation was performed after range surveys.

AFFECTED ENVIRONMENT

TABLE 3-4

Status of Sensitive Plant Species

Category 1

Plant species for which the FWS has sufficient information to support the biological appropriateness of listing as endangered or threatened species.

Astragalus chloodes
Astragalus hamiltonii
Glaucocarpum suffrutescens

Lepidium barnebyanum
Thelypodopsis argillacea

Category 2

Plant species for which FWS' information indicates the probable appropriateness of listing as endangered or threatened, but sufficient information is not presently available to biologically support a proposed rule.

Aqualegia barnebyi
Astragalus saurinus
Eriogonum tumulosum

Penstemon angustifolius var.
vernalensis
Penstemon goodrichii
penstemon grahamii

Category 3c

Plant species no longer being considered for listing as endangered or threatened. These plants have proven to be more abundant or widespread than was previously believed. Also those plants that are not subject to any identifiable threat.

Astragalus detritalis
Astragalus duchesnensis
Cryptantha breviflora
Cryptantha stricta
Cymopterus duchesnensis
Eriogonum ephedroides

Eriogonum hylophilum
Eriogonum saurinum
Eriogonum viridulum
Parthenium ligulatum
Townsendia mensana

Source: USDI, FWS, 1980.

AFFECTED ENVIRONMENT

TABLE 3-5

Soil Erosion Condition Classes

| Stable & Slight | Moderate | Critical |
|-----------------|----------|----------|
| 40% | 48% | 12% |

Source: USDI, BLM, 1981.

TABLE 3-6

Sediment Yield Classes

| Yield Class | Description | Yield Rate ac. ft./sq. mi./yr. | Percent of Planning Area in Yield Class |
|-------------|----------------|-----------------------------------|---|
| 1 | Extremely High | >3.0 | 0 |
| 2 | Very High | 1.0-3.0 | 0 |
| 3 | High | 0.5-1.0 | 56 |
| 4 | Moderate | 0.2-0.5 | 22 |
| 5 | Low | 0.1-0.2 | 21 |
| 6 | Very Low | <0.1 | 1 |
| | | | <u>100%</u> |

Source: USDI, Bureau of Reclamation, 1975.

TABLE 3-7

Sage Grouse Harvest and Strutting Ground Counts

| Year | Harvest | Strutting Ground Counts | | | Total |
|------|-------------|------------------------------|-----------------------------|--------------------------|-------|
| | | Little Mountain ^a | Halfway Hollow ^a | Observatory ^b | |
| 1978 | 70 | 32 | 11 | 17 | 60 |
| 1979 | 68 | No count | 15 | 12 | 27 |
| 1980 | Unavailable | 14 | 22 | 11 | 47 |

Source: UDWR, 1978, 1979, 1980.

^aLocated in East Huber Allotment.

^bLocated in Cook Allotment.

AFFECTED ENVIRONMENT

TABLE 3-8

Comparison of Number of Livestock Operators

| Location | Number of Livestock Operators | Livestock AUMs |
|-------------------------------|----------------------------------|-------------------|
| Western United States | 13,821 | 10,227,730 |
| Utah | 2,057 | 1,023,088 |
| Ashley Creek Planning Area | 60 | 39,303 |

Source: USDI, BLM, 1981.

TABLE 3-9

Ranching Operations

| Category | Number of Operations | Number of Operators |
|----------------------------|-------------------------|------------------------|
| Small (1 to 99 cattle) | 24 | 18 |
| Medium (100 to 299 cattle) | 31 | 14 |
| Large (300+ cattle) | 24 | 14 |
| Small (1 to 999 sheep) | 12 | 9 |
| Large (1,000+ sheep) | 13 | 9 ^a |
| Totals | 92 | 64 ^a |

Source: USDI, BLM, 1981.

^aSome operators show up more than one time because they have more than one size category; also, some operators have both sheep and cattle operations. There are 60 separate operators.

TABLE 3-10

Livestock Grazing by Season of Use

| Season of Use | Percent |
|--------------------|---------|
| Spring | 17 |
| Winter | 23 |
| Summer | 8 |
| Fall | 8 |
| Winter-Spring | 12 |
| Fall-Winter | 17 |
| Spring-Summer | 5 |
| Spring-Fall | 5 |
| Spring-Fall-Winter | 4 |
| Yearlong | 1 |

Source: USDI, BLM, 1981.

AFFECTED ENVIRONMENT

TABLE 3-11

Dispersed Recreation Sites and Areas

| Site Name ^a | Location ^b | Activities/Attractions/Remarks |
|---|--|--|
| 1. Argyle Canyon | Argyle Ridge, Leers Canyon, Parley Canyon | Hunting: deer and sage grouse. Sightseeing: geological, botanical, and landforms. |
| 2. Ashley Creek | Dry Fork | Fishing: trout. Camping and general leisure activities. |
| 3. Brough Reservoir | Ouray Road | Fishing: rainbow trout and smallmouth bass. |
| 4. Banks Hill | Brush Creek | Snow play: tubing. |
| 5. Clay Hills | Sadlier | ORV: 4-wheel drive and cycles. |
| 6. Drive-Through-The Ages | Red Mtn., Brush Creek | Sightseeing: geological (19 geologic formations and interpretative signs along 30 miles of U-44). |
| 7. Dry Fork Canyon | Dry Fork, Shindy, and Willow Spring | Sightseeing: geological, botanical, and archaeological (rock art). |
| 8. Green River | Cook, Flue Knoll-Twin Knolls, Green River Bottoms, Horse-shoe Bend, Pelican Lake, Powell (Twelve Mile), Wetlands, Young. | Fishing: catfish. Hunting: deer and waterfowl. River running: Ouray to Sand Wash. Sightseeing: geological, historical, zoological, and botanical. |
| 9. Honda Hills | Brush Creek | ORV: 4-wheel drive and cycles. Snow play: snowmobiling and tubing. |
| 10. Little Mountain | East Little Mtn., West Little Mtn. | ORV: mostly big game and sage grouse hunting related. |
| 11. Moonshine Arch | Red Mountain | Sightseeing: large natural arch in Navajo sandstone. |
| 12. Nine Mile Canyon | Parley, Currant, Water No. 2, Devils and Bull Canyons | Sightseeing: geological, archaeological (pictographs and petroglyphs), and historical sites. |
| 13. Pariette Draw | Wetlands | Hunting: waterfowl, pheasant, and deer. Sightseeing: zoological (waterfowl and shore birds). |
| 14. Pelican Lake | West Pelican Lake | Fishing: blue gill and largemouth bass. Sightseeing: zoological (waterfowl, shore and song birds, and raptors [eagles]). Hunting: waterfowl and pheasant. ORV: 4-wheel drive and cycles. |
| 15. Pine Ridge | Hacking, Willow Spring | Hunting: deer, elk, dove, sage grouse and blue grouse. Sightseeing: zoological (deer and elk in winter). |
| 16. Red Mountain | Red Mtn., Spring Creek | Hunting: deer and elk. Sightseeing: zoological (elk and deer in winter). Snow play: snowmobiling and cross-country skiing. |
| 17. Sand Pockets Motor-cycle Trail (12-mile loop) | Red Mtn., Spring Creek | ORV: 4-wheel drive and cycles. |
| 18. Six Mile Draw | Shiner | Primitive values: scenic natural undeveloped area with opportunities for solitude. |

^aNumbers correspond to locations on Figure 3-8.

^bLocation by allotment.

Partial Budgets for Ranch Operators

| | Categories | | | | |
|--|----------------------|-------------------------|-------------------|-----------------------|---------------------|
| | Small (1 to 99 cows) | Medium (100 to 299 cow) | Large (300+ cows) | Small (1 to 999 ewes) | Large (1,000+ ewes) |
| Average Herd Size | 52 | 201 | 847 | 405 | 2,780 |
| Gross Ranch Income | \$13,006 | \$52,832 | \$223,239 | \$29,045 | \$199,181 |
| Total Cash Costs | \$8,361 | \$33,308 | \$132,454 | \$13,915 | \$83,878 |
| Net Cash Income | \$4,645 | \$19,523 | \$90,785 | \$15,130 | \$115,303 |
| Family Labor | \$2,332 | \$5,206 | \$10,460 | \$703 | \$9,647 |
| Return Above Cash Costs & Family Labor | \$2,313 | \$14,317 | \$80,325 | \$14,427 | \$105,656 |
| Return to Total Investment | \$-257 | \$4,468 | \$39,118 | \$11,149 | \$85,882 |
| Number of Livestock Operators ^a | 18 | 14 | 14 | 9 | 9 |
| Percent Dependence on BLM Forage | 25 | 9 | 6 | 21 | 25 |

Source: USDA, Economics, Statistics, and Cooperative Services, 1981.

^aRanchers with mixed cattle and sheep operations are grouped according to the largest number of animals.

TABLE 3-13

Estimates for Hunting Activity Expenditures

| Hunting Activity | 1979 | | Total Expenditures |
|------------------|-----------------------------|-------------|--------------------|
| | Expenditures Per Hunter Day | Hunter Days | |
| Deer | \$ 32.26 | 4,320 | \$139,350 |
| Elk | 120.61 | 1,315 | 158,600 |
| Antelope | 28.75 | 48 | 1,380 |
| Total | | 5,683 | \$299,330 |

Source: USDI, BLM, 1981.

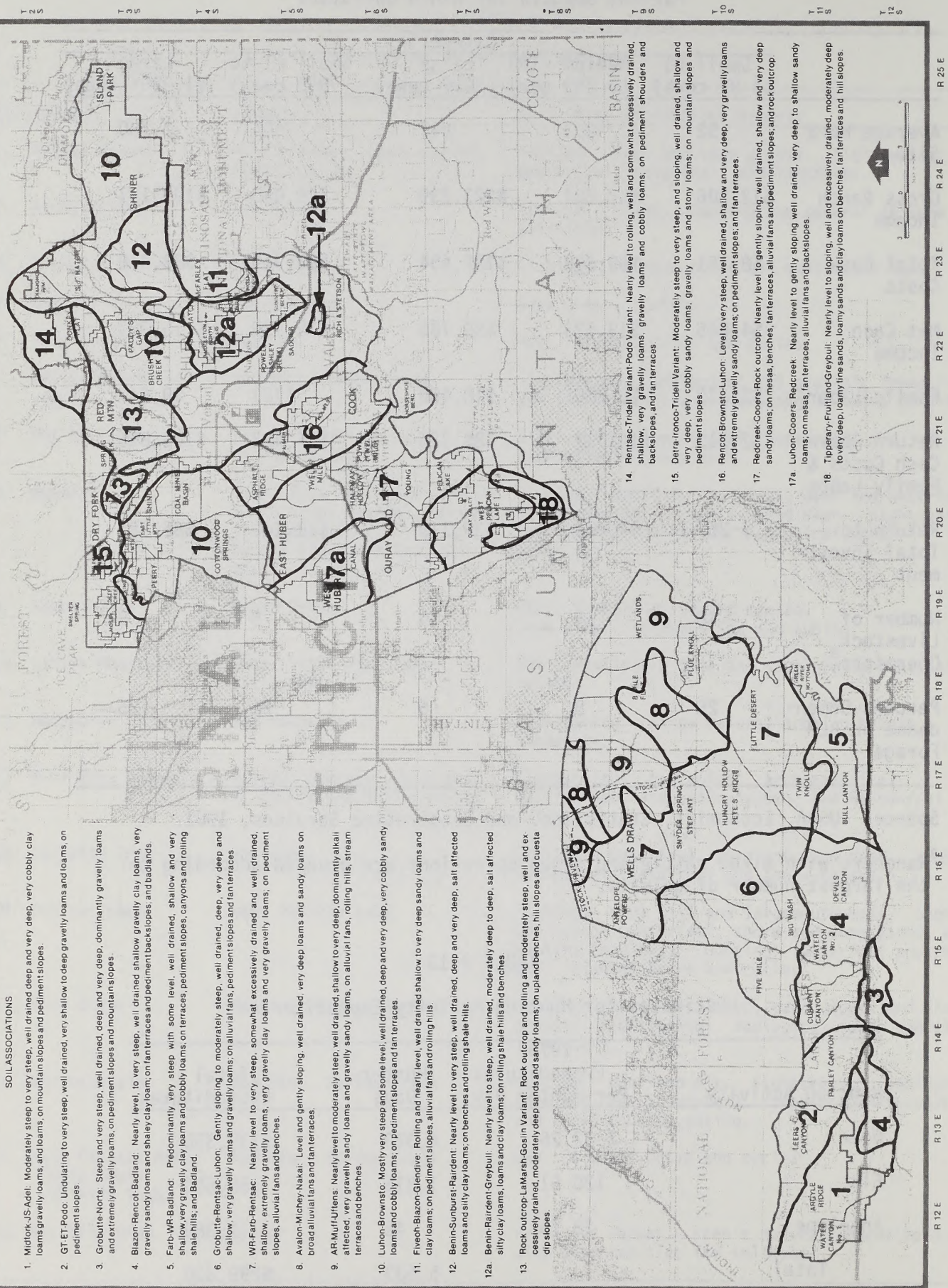


Figure 3-1
SOIL ASSOCIATIONS WITHIN
THE ASHLEY CREEK PLANNING AREA

AFFECTED ENVIRONMENT

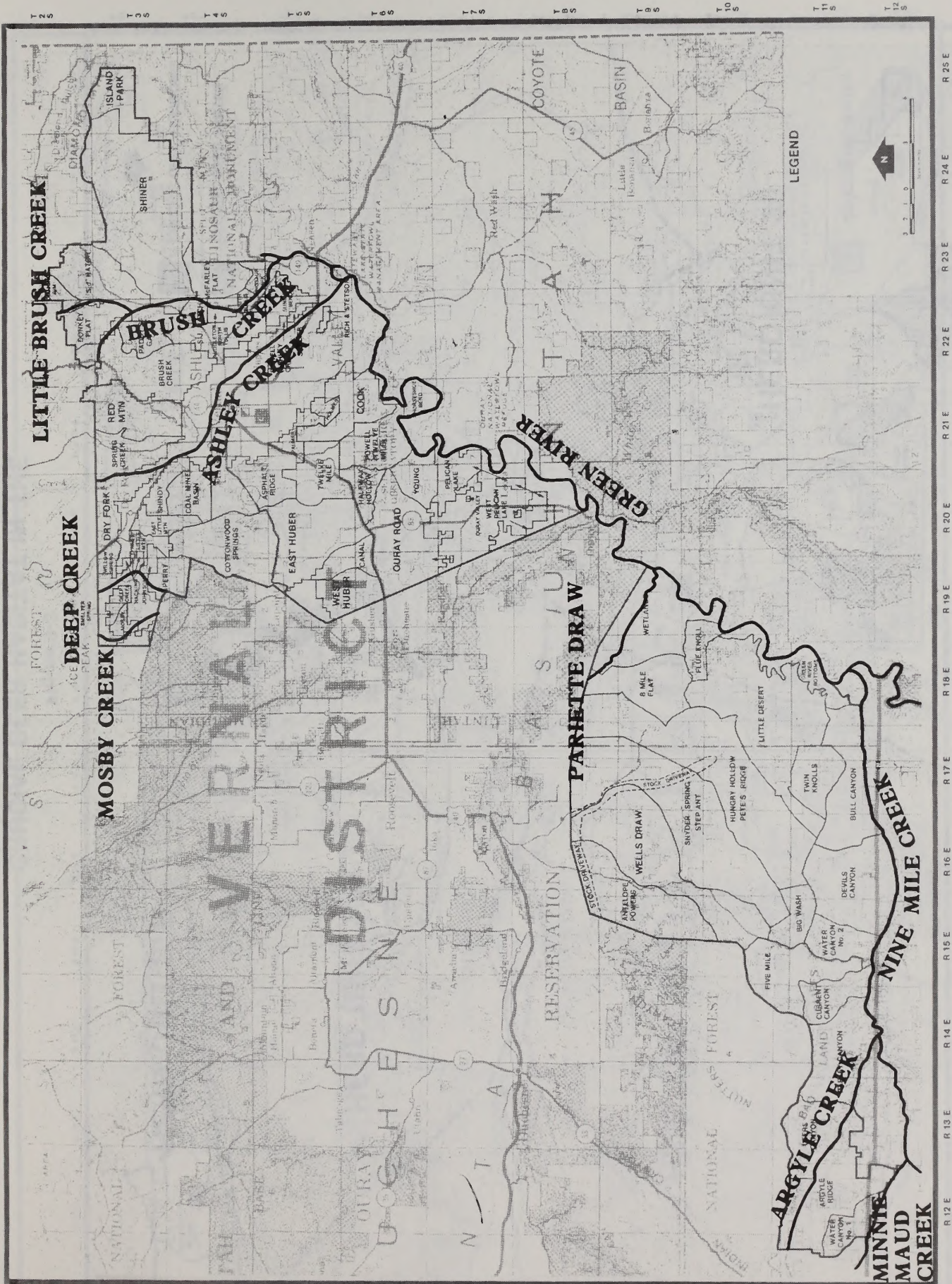


Figure 3-2
PERENNIAL STREAMS IN THE ASHLEY CREEK PLANNING AREA

[illegible]

Figure 3-3



Figure 3-4

AFFECTED ENVIRONMENT

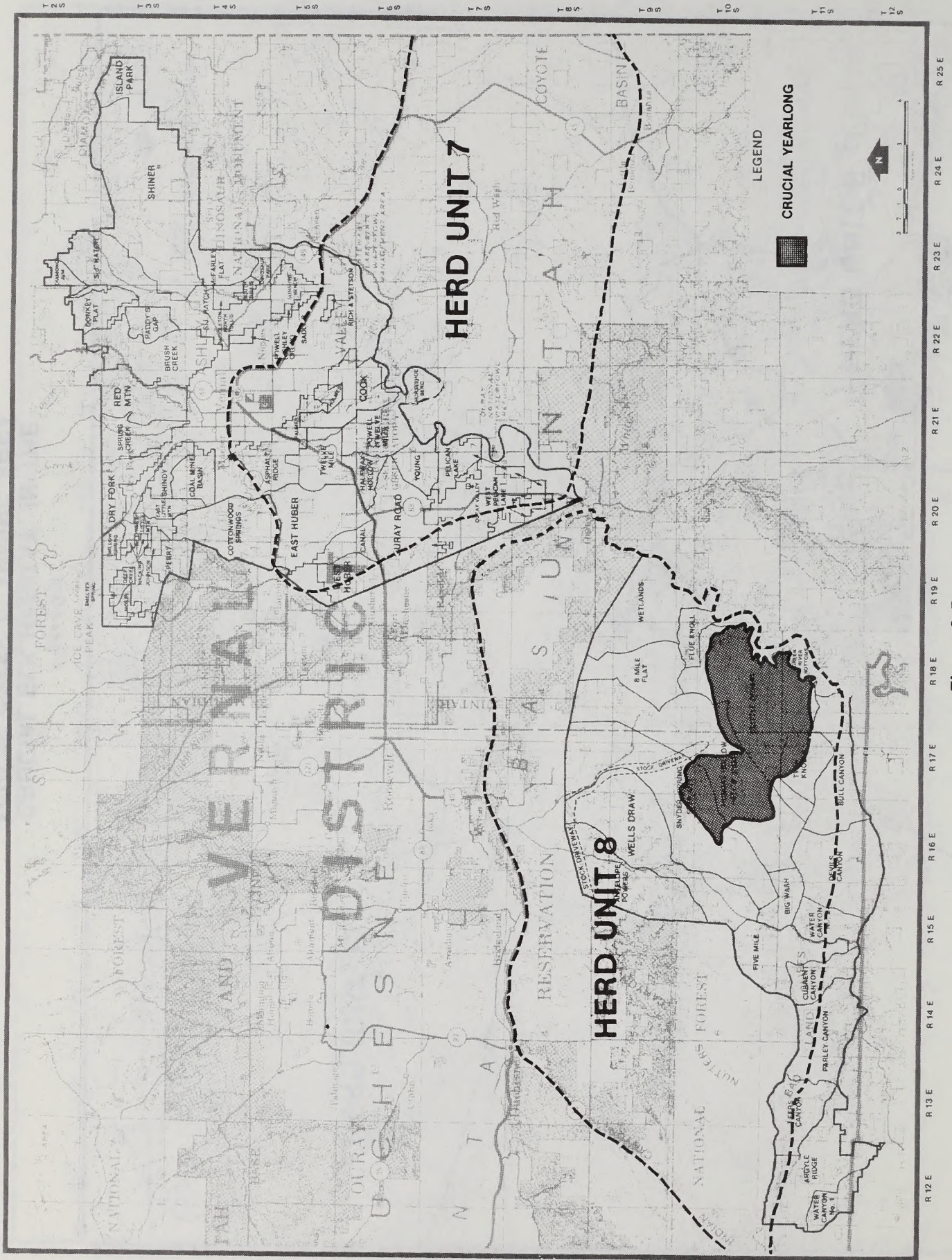
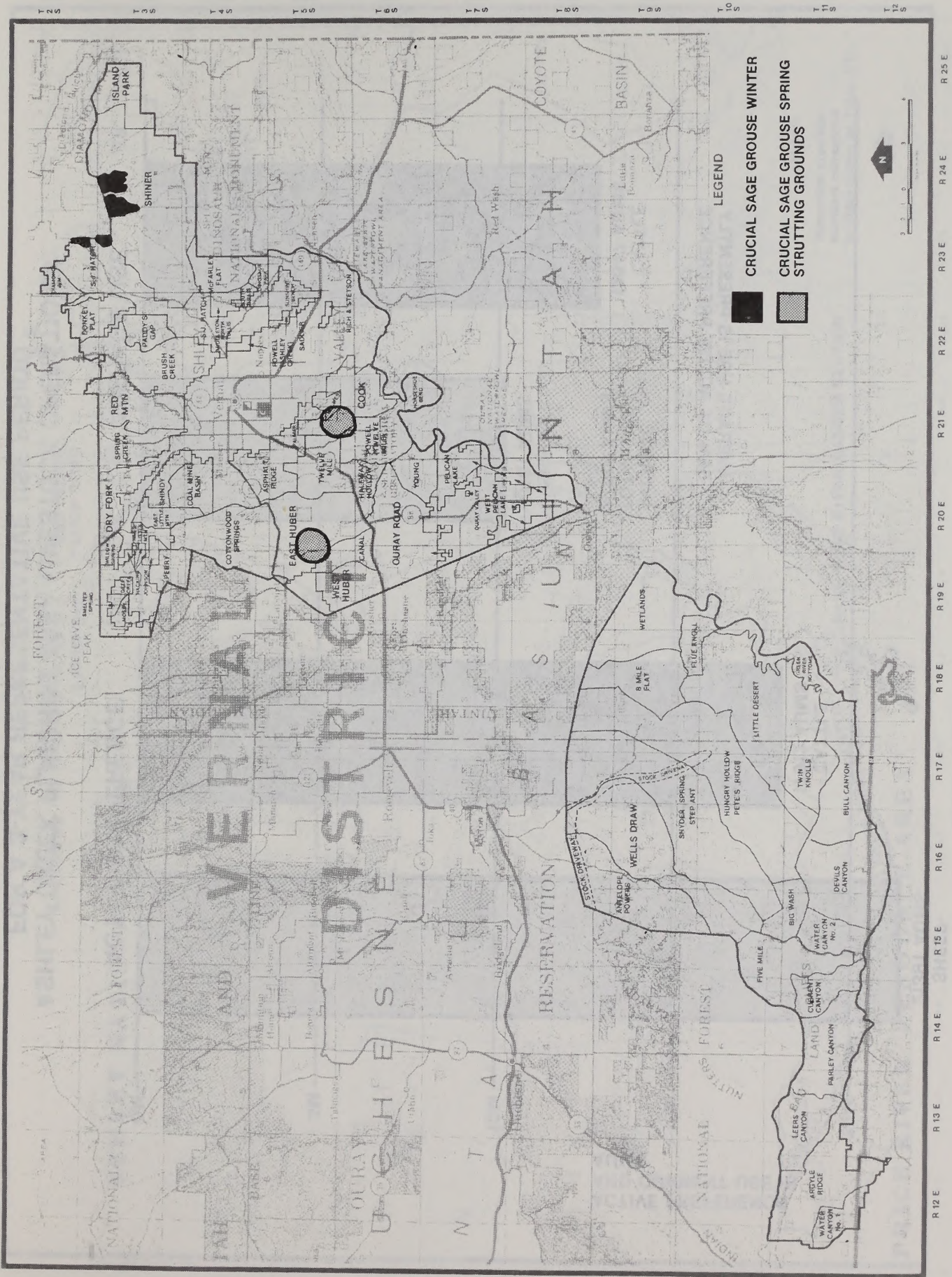


Figure 3-5
**CRUCIAL ANTELOPE HABITAT IN THE
 ASHLEY CREEK PLANNING AREA**

AFFECTED ENVIRONMENT



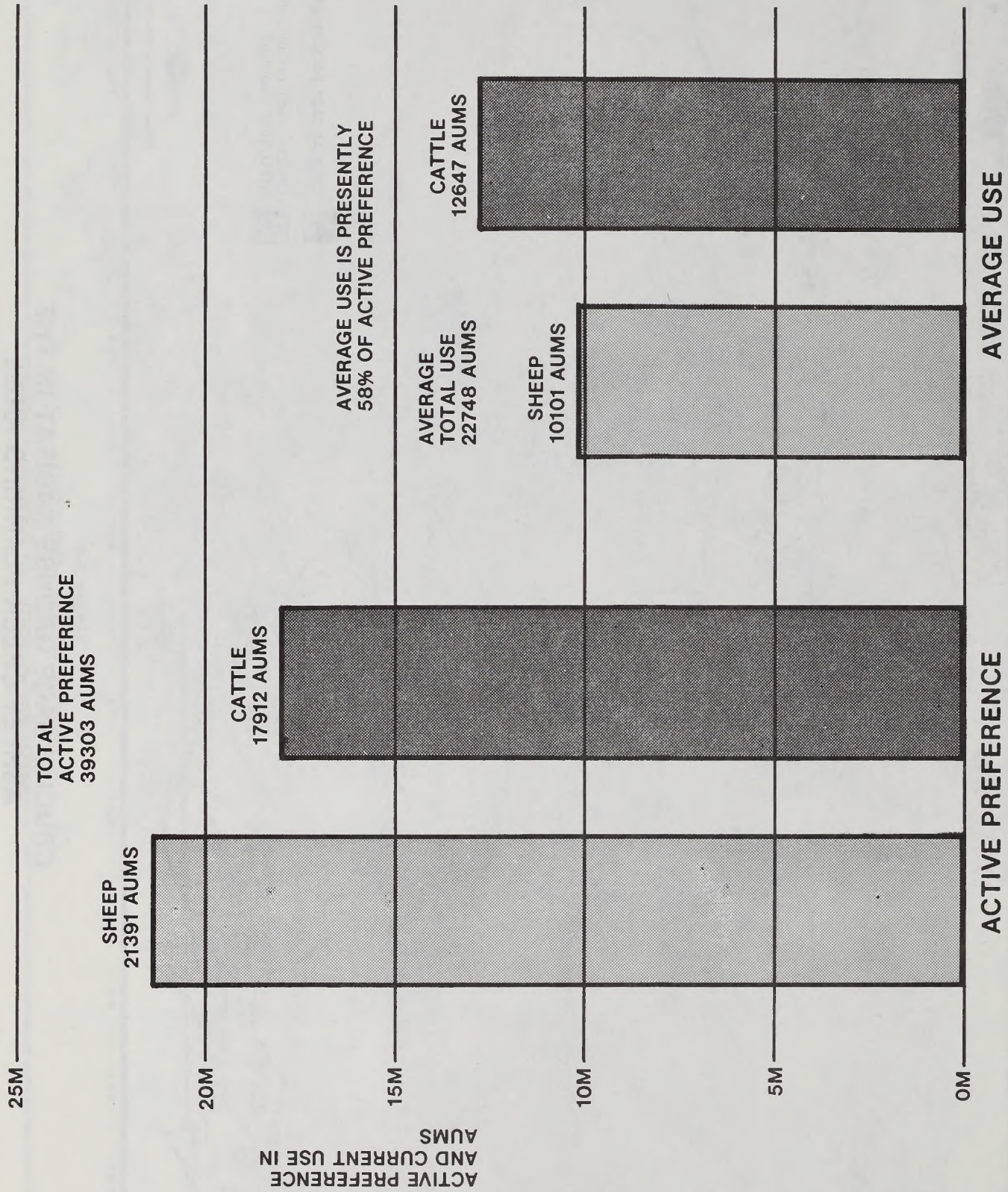


Figure 3-7
 ASHLEY CREEK PLANNING AREA LIVESTOCK OPERATIONS
 FOR A 3-YEAR REPRESENTATIVE USE PERIOD



Figure 3-8

AFFECTED ENVIRONMENT

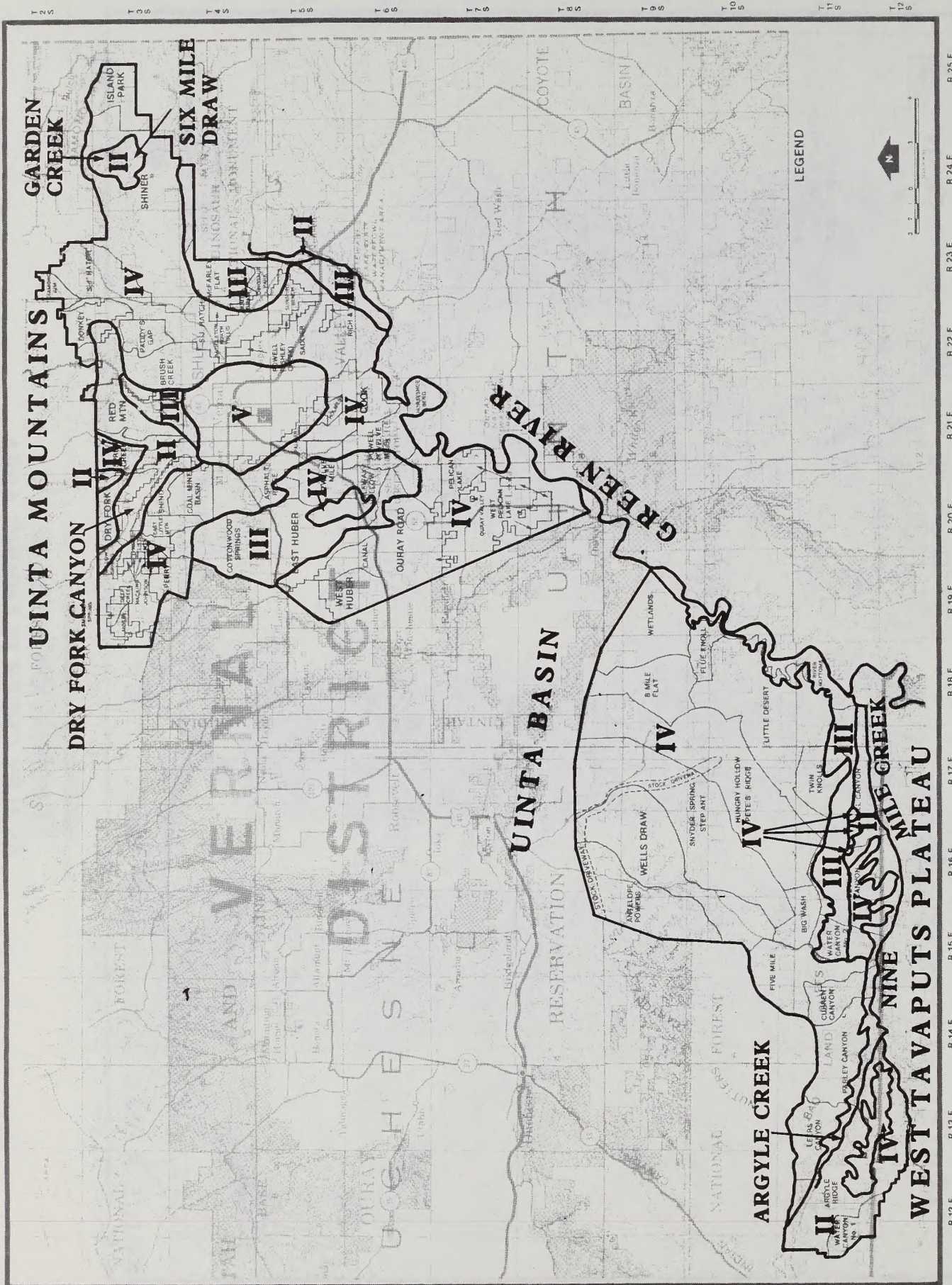


Figure 3-9
 ASHLEY CREEK PLANNING AREA
 VISUAL RESOURCE MANAGEMENT CLASSES

ENVIRONMENTAL CONSEQUENCES

[illegible]

CONSEQUENCES

These results suggest that the use of a single, standard, and simple questionnaire is a promising approach to the study of the prevalence of mental health problems in the community. The use of a single questionnaire may also be useful in the study of the prevalence of mental health problems in the workplace.

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1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

Big Game hunters would be charged by the state of Virginia the cost of their equipment and license, and the animals would be sold.

CLP should have the authority and ability to set and enforce objectives for the various regions of the country.

CHAPTER 4

EXPERIMENTAL CONSIDERATIONS

THESE EXPERIMENTAL CONSIDERATIONS ARE
BASED ON THE ASSUMPTIONS OF THE

CHAPTER 4

ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

This chapter identifies probable environmental consequences of the alternatives. Significant consequences discussed are those that affect the quality of human environment, are controversial or of high public concern, or affect a legally protected species or resource.

BASIC ASSUMPTIONS AND ANALYSIS GUIDELINES

Assumptions and guidelines followed in analyzing impacts include:

1. Each alternative is analyzed as if it were fully implemented, proposed changes occurred, and standard measures were followed as described in Chapter 2.
2. Impacts to state and private lands would be similar to those identified for public lands. However, only those impacts occurring on public lands are quantified in this environmental impact statement (EIS).
3. None of the alternatives would involve direct government control over private or state lands that are intermixed or used in conjunction with Bureau of Land Management (BLM) livestock allotments, unless exchange-of-use agreements exist.
4. Factors such as market conditions, labor, and other costs would remain constant. They are based on 3-year average data (1978-1980).
5. Permittees would use all animal unit months (AUMs) allotted to them and, if necessary, purchase additional livestock to use any increase in BLM grazing permits.
6. Big game numbers would be managed by the Board of Big Game Control to meet the proposed stocking in each alternative.
7. BLM would have the manpower and funds to implement the alternative or combination of alternatives chosen.
8. Because actual livestock use is unknown, current licensed use will be assumed to be actual use. Average use will be considered as the existing situation. (Average use is an average of the 3 most representative years on each allotment from records [current licensed use] of the last 8 years.)
9. Implementation of any of the alternatives would cause short-term changes in the environment which would affect its long-term productivity. For purposes of this EIS, short term is defined as

the 5-year monitoring period; long term is 5 to 20 years following implementation of an alternative.

ENVIRONMENTAL CONSEQUENCES OF IMPLEMENTING ALTERNATIVE ACTIONS

For analysis purposes, the chapter is divided into alternative sections with resource components as subdivisions. Each resource section contains an impact analysis followed by a conclusion.

The dominant impact analyzed in this EIS results from livestock and big game grazing on the vegetation resource. Impacts occurring to other resources such as soils, watershed, wildlife, and socioeconomics are also analyzed.

This chapter also discusses unavoidable adverse impacts and the relationship between the short-term use of man's environment and the maintenance and enhancement of its long-term productivity. Any irreversible or irretrievable commitments of resources involved in implementing the alternatives are also identified.

The BLM interdisciplinary environmental analysis team has not identified any change agents in the proposed alternatives which would have impacts on climate, air quality, geology, minerals, or topography. There are no identified wilderness or wilderness study areas and no wild horses or burros in the Ashley Creek Planning Area.

The BLM has entered into a Memorandum of Understanding with the Utah State Historic Preservation Officer which outlines compliance with the National Historic Preservation Act (see Appendix 5). Even with the implementation of proposed mitigation, ground-disturbing actions could inadvertently damage or destroy cultural resources, resulting in a loss of scientific and educational information. Any destruction of cultural remains during vegetation manipulation would result in a long-term loss of scientific and educational information since present salvage techniques do not ensure total information recovery. This adverse impact to cultural resources is irreversible; the information lost as a result of that impact is irretrievable. However, the intensive cultural resource inventory required prior to any ground-disturbing action would be a beneficial impact to our knowledge of the resource because it would result in the documentation of previously unknown sites and areas.

Because the actual locations of vegetation manipulation projects have not been specified and any im-

ENVIRONMENTAL CONSEQUENCES

pact analysis would, therefore, be limited to the general statements already made, no further impact analysis for cultural resources appears in this chapter.

Grazing-related impacts to threatened and sensitive plant species occurring in the planning area have not been documented. There is no evidence linking present or past declines in the population or vigor of these plants to levels of grazing use. Likewise, the impacts of vegetation manipulation projects on these plants are unknown. Surveys for threatened, endangered, and sensitive plants would be completed prior to any vegetation manipulation and appropriate mitigation would be applied. If it were determined that any BLM action might adversely affect any officially listed threatened or endangered plant species, formal consultation would be initiated with the U.S. Fish and Wildlife Service (FWS). The action would be modified to the extent necessary or cancelled, depending on the biological opinion received from the FWS.

ALTERNATIVE 1: PROPOSED ACTION — MULTIPLE-USE ALTERNATIVE

This analysis has been made in two parts: (1) short term (5-year monitoring period); and (2) long term (that period following monitoring studies, which includes changes in the management level and vegetation manipulation projects [5-20 years]). During the third year of the monitoring period, changes would be made to reduce the severity or extent of the impacts involved. Therefore, the short-term analysis that follows is worst case.

VEGETATION

INTRODUCTION

These analyses are based on available data. Because this data by itself is not adequate for administrative action by BLM, it has been used only for analysis purposes and only the expected broad direction of change is described.

Projected vegetation changes resulting from this alternative are analyzed as they relate to ecological condition and trend, vegetation/forage production, and the effect of grazing on riparian vegetation.

SHORT-TERM IMPACTS

Initially, big game and livestock would increase to 33 percent above average use. Proposed initial stocking is 44,229 AUMs, 4,000 AUMs above estimated current grazing capacity. On 41 allotments the projected vegetation utilization is based on current data and assumes that stocking increases and decreases would result in proportional changes in utilization. Grazing capacity is based on the 1960 survey on the 24 other allotments where utilization data is not avail-

able. (The 1960 survey was a survey completed between 1959 and 1965 using the ocular reconnaissance method described in BLM manuals.) It is assumed where initial stocking would exceed this grazing capacity that utilization would exceed 50 percent.

Vegetation Overutilization/Spring Use

It is well documented that vegetation overutilization (utilization averaging in excess of 50 percent for range plants) on an annual basis weakens and eventually destroys plants by causing a loss of carbohydrate reserves (Stoddart et al., 1975; McIlvanie, 1942), losses of live root mass (Cook, 1966), and reduction of plant vigor as measured by herbage weight and seed stalk production (Mueggler, 1975).

Qualitative decreases in plant vigor are indicated by an incomplete life cycle, the number of leaves and seed stalks of grasses, or the general appearance of the plants (Braun-Blanquet, 1932; Kneebone and Cremer, 1955; and Cook et al., 1958). Deterioration in plant vigor is the first result of overgrazing and is an important factor in retarding succession in ecological condition (Johnson, 1965; Pechanec, 1954; Short and Woolfolk, 1956; Weaver and Darland, 1947). As the vigor of the perennial grasses and shrubs declines, less seed is produced and fewer seedlings become established. Studies conducted (Cook, 1971) in western Utah on ranges similar to those in the planning area have shown that there is a relationship between season of use and percent of vegetation utilization.

Overutilization is further complicated by spring use. Of the 65 allotments in the planning area, 61 are grazed by livestock during some portion of the spring period (March 21 to June 20). (See Appendix 1.) Studies by Cook (1971) found, without exception, that excessive spring grazing reduced twig length in browse and the number of seed stalks in grasses and caused a larger portion of the plants to die in each species. Clipping (simulated grazing) in the spring caused about 89 percent more death loss of plants and about 54 percent greater crown reduction in living plants than other seasons of harvesting. There was little difference among the average death losses from fall, early winter, and late winter harvesting. The effects of spring grazing can be reduced or eliminated by changing management levels to alternate or defer use during this critical plant growth and reproduction period (Hormay, 1970).

Of the 65 allotments in the planning area, available data indicate that 32 allotments (261,884 acres, 50 percent of the planning area) may be affected by overutilization or exceeded grazing capacity during the short term of this alternative (see Table 4-1).

Vegetation utilization is projected to be sustained at over 50 percent on 29 spring use allotments under this alternative. Eight of these allotments are under allot-

ENVIRONMENTAL CONSEQUENCES

ment management plans (AMPs). On these allotments, spring use by livestock is either alternated or deferred; therefore, it is likely that the effects of spring grazing and overutilization (>50 percent) would not be as severe as in the other allotments, and overutilization might not occur.

Riparian Vegetation

Generally, riparian vegetation begins growth earlier in the spring and continues growth later in the fall than most upland range vegetation in the planning area. During these seasons, riparian plants are more palatable than dried range plants and are actively sought by cattle (Platts and Rountree, 1972). Therefore, riparian areas are more susceptible to overgrazing by cattle.

Studies by Duff (1978), Hormay (1970), and others have shown that fencing can improve riparian vegetation and result in improvement to good condition in about 4 years. The class or type of animal allowed to graze along the riparian areas determines the degree of impact expected. For example, on areas where sheep are allowed to graze, damage or deterioration is not as great as on areas where cattle are allowed to graze. This is because sheep do not weigh as much, do not prefer riparian vegetation to the same extent, have different grazing habits (do not favor water areas), and are generally herded to water then driven away to graze. Duff and Robinson (1980) indicate that riparian vegetation could improve or remain in good condition in riparian areas where only sheep were allowed to graze.

Based upon the above research, little change could be expected in the riparian vegetation on cattle allotments.

Summary of Short-Term Impacts

Using range management science and the limited available data, it is predicted that vegetation on 32 allotments would be adversely affected. As vegetation utilization increased, plant vigor would be impaired, resulting in decreased plant growth and reproduction. Composition and vegetation cover, along with plant growth, rate of reproduction or replacement in the plant community, and vigor are elements in determining ecological condition. Therefore, under this alternative, it is expected that, in locations where ecological condition is advancing toward climax, that condition would begin to decline or become static and ecological succession could be reversed. Vegetation or biomass production would remain at about the same level but the amount and quality of forage would gradually decline. Therefore, in the short term, it is expected that there would be no increase in forage production or improvement in ecological condition on 50 percent of the planning area, including riparian areas.

LONG-TERM IMPACTS

Using vegetation utilization data as an indicator of

past grazing capacity (based on 50 percent utilization) or survey data where utilization has not been recorded, a grazing capacity of about 40,000 AUMs is predicted for the fifth year.

Professional range conservationists believe that, by reducing stocking to the rangeland's grazing capacity and using improved management (for 16 allotments having AMPs) as proposed in this alternative, grazing capacity could be increased by about 460 AUMs.

Further increases in desirable species (forage production) would be achieved by controlling pinyon-juniper and sagebrush. Pinyon pine, Utah juniper, and sagebrush naturally occur in the planning area (Ralphs and Busby, 1979). Overgrazing has reduced many desirable species, and fire prevention has stopped natural succession, allowing sagebrush and pinyon-juniper to increase in density and encroach upon sagebrush and bunchgrass communities.

This alternative proposes vegetation manipulation in pinyon-juniper and sagebrush types by chaining, clear-cutting, burning, plowing, and spraying with herbicide (2,4-D). The results of these methods of vegetation manipulation are well documented. Vallentine (1974) states that the overall benefits from vegetation manipulation are increased quantity and quality of forage, reduced fire hazard, increased water yield, controlled erosion, and reduced conflicts between livestock and big game.

In this alternative, vegetation manipulation would be performed on approximately 7 percent of the planning area. Proposed vegetation manipulation projects are described below. Expected changes in forage production and vegetation composition are based on results from areas having similar vegetation types, climate, and soils. The exact amount of change in composition from pinyon-juniper and sagebrush to other woody shrubs (browse), forbs, and grasses is not predicted because of the wide variation in range site potential. Because vegetation manipulation projects are identified only by allotment and not by range site, only the broad direction of change in composition is predicted.

1. Chaining or Clear-cutting Pinyon-Juniper and Seeding

Immediate reductions of up to 90 percent of pinyon-juniper and sagebrush have been obtained, but 50- to 70-percent reductions are more common (Pechanec et al., 1965). In 1973 the Forest Service (USFS) gained 0.30 AUMs per acre of annual net usable forage by chaining sagebrush and pinyon-juniper on the Fishlake National Forest. Chaining and seeding have been successfully used to increase grazing capacity in the planning area. Monitoring studies (USDI, BLM, 1982) show the following increases on three allotments. Donkey Flat Allotment: Before 49.6 lbs/acre; After 610 lbs/acre. Big Wash Allotment: Be-

ENVIRONMENTAL CONSEQUENCES

fore 28.1 lbs/acre; After 1,246 lbs/acre. Cottonwood Springs Allotment: Before 40.2 lbs/acre; After 135.7 lbs/acre. Composition in the treated area is predicted to change from pinyon-juniper and sagebrush to more desirable grass and browse species.

2. *Plowing and Seeding*

In 1950 pastures in Benmore and Eureka, Utah were plowed and seeded with several species of wheatgrass. Average vegetation production was increased from 190 to 1,148 lbs. per acre, or an increase of about 1 AUM per acre between the years 1956 and 1964 (Cook, 1966). Composition in the treated area is predicted to change from sagebrush to more desirable grass and browse species.

3. *Spraying*

Spraying herbicide 2,4-D can reduce big sagebrush by 67 to 100 percent (Blaisdell and Muegler, 1956). A reduction in sagebrush releases moisture and nutrients for other vegetation production. Cook (1966) applied herbicides to mixed stands of big sagebrush and rabbitbrush at four locations in Utah ranging in elevation from 5,200 to 6,000 feet. Prior to treatment, the experimental plots had a 20- to 40-percent brush cover and were producing from 430 to 800 lbs. of air-dried forage (mainly grasses) per acre. Following spraying, forage yields varied from 800 to 1,500 lbs. (0.5 to 1 AUM per acre) of air dried material per acre. Spraying 2,4-D has increased grazing capacity in the Diamond Mountain Resource Area. Monitoring studies (USDI, BLM, 1982) on the adjoining Three Corners Planning Unit show the following increases: Section 29: Before 37.8 lbs/acre; After 333 lbs/acre. Section 30: Before 120.5 lbs/acre; After 333 lbs/acre. Composition in the treated area is predicted to change from 40- to 50-percent big sagebrush to 10-percent sagebrush with more grass and browse species.

4. *Prescribed Burning*

Sagebrush burning conducted in Clark and Fremont Counties of southeastern Idaho in areas that had a good understory of perennial grasses and weeds showed that, within 4 years after burning, grazing capacity had increased about 85 percent; after 15 years, grazing capacity was still 60 percent higher, or about 0.5 AUMs per acre, than on unburned ranges (Pechanec et al., 1965). Prescribed burning has increased grazing capacity in the Diamond Mountain Resource Area. Monitoring studies (USDI, BLM, 1982) on the adjoining Three Corners Planning Unit showed the following increases: Before 133 lbs/acre; After 250 lbs/acre. Vegetation composition in the planning area

is predicted to change from a predominantly sagebrush type to a grass-browse-forb range.

5. *Riparian Protection*

Duff (1978) has shown that, within 4 years after completion of fencing, there should be as much as a 63-percent improvement in riparian vegetation condition within the enclosure. The riparian habitat in the planning area would show an increased number of cottonwood and willow saplings and improvement in undercut or overhanging streambanks.

Riparian Vegetation

Of 3,643 acres of riparian/marsh vegetation in the planning area, 5 acres on Green River Bottoms Allotment and 25 acres along Nine Mile Creek in Bull Canyon and Devils Canyon Allotments would be fenced to exclude cattle and the protected areas would improve. Other areas grazed by cattle would continue to deteriorate or show little change, with the possible loss of cottonwood trees in some areas.

Cottonwood stands have shown little regeneration over the past 30 years. The factors causing this are believed to be (1) livestock grazing; (2) control of natural flooding of the Green River by construction of Flaming Gorge Dam; and (3) increased incidence of man-caused fires. Tamarisk (an introduced exotic) is now replacing cottonwoods as the dominant tree on most Green River floodplains.

Summary of Long-Term Impacts

The combined effects of revised stocking, vegetation manipulation projects, and implementation of AMPs would increase forage production by 8,823 AUMs. This figure was calculated using conservative predictions of increases based on ecological range site data and averaging the increase expected from each type of manipulation. This increase would take place prior to the end of the 20-year long-term period.

CONCLUSION

This alternative would have a short-term adverse impact from vegetation overutilization on 32 allotments (50 percent) of the planning area.

Vegetation manipulation and improved management would result in an increase of 8,823 AUMs. These long-term increases, when added to the estimated current production, would provide a total of approximately 49,000 AUMs. Riparian vegetation condition on 30 acres would improve under this alternative; the existing condition of the remaining acreage (3,613 acres) would be maintained with the possible exception of areas containing cottonwood trees.

ENVIRONMENTAL CONSEQUENCES

SOILS

A certain amount of soil movement is natural on most wildlands. However, soil movement is abnormal if the soil mantle is disturbed creating soil losses in excess of those occurring naturally (USDI, BLM, 1981).

SHORT-TERM IMPACTS

On allotments where vegetation would be overutilized, ground cover would decrease, thus leaving the soil less protected and more susceptible to erosion for the short term. This could increase soil movement on localized areas. There are 32 allotments where vegetation overutilization would occur, with approximately 57 percent of this area (148,596 acres) in sediment yield Class 3, 32 percent (83,015 acres) in Class 4, and 11 percent (30,273 acres) in Class 5. (See Table 3-6 for sediment yield legend.)

LONG-TERM IMPACTS

Following the monitoring period, stocking would be adjusted to grazing capacity and vegetation stabilized, thus stabilizing soil erosion. Vegetation manipulation projects are proposed on 33 allotments (57,420 acres) with the method of seedbed preparation varying according to vegetation and soil conditions. Herbicide 2,4-D would be used for spraying; however, the chemical would degrade in 2 to 6 weeks and would not accumulate in the soil (USDA, Agricultural Research Service, 1977). Spraying would not increase erosion because dead vegetation would be left to protect the soil surface. Burning, plowing, and chaining would remove much of the existing vegetation and expose some soil to wind and water erosion. Because reseeding would follow shortly behind seedbed preparation, accelerated erosion would occur for only 1 to 2 years, followed by a decrease in erosion as the vegetation cover increased. Although soil loss cannot be quantified because the amount of loss would depend on soil and weather conditions immediately following seedbed preparation, it is expected to be minimal.

CONCLUSION

During the short term, soil erosion would increase on 50 percent of the planning area (32 allotments); however, in the long term, the amount of erosion would begin to decrease on the entire planning area.

WATER RESOURCES

SHORT-TERM IMPACTS

An initial increase in stocking would result in an unquantifiable increase of coliform bacteria in streams where livestock and big game had access (Stephenson and Street, 1977, as cited in EPA, 1978).

LONG-TERM IMPACTS

Part of the proposed vegetation manipulation would

involve spraying with the herbicide 2,4-D. This herbicide degrades in 2 to 6 weeks and would not accumulate in the soil or enter the stream system (USDA, Agricultural Research Service, 1977). Chaining, clear-cutting, plowing, and burning would remove some vegetation cover and leave some soil exposed. This could result in higher sediment yield and surface runoff. Following reseeding, grass and browse species would become established in 1-3 years, reducing sediment yield.

CONCLUSION

The present water yield of 52,420 acre-feet per year would remain constant. Sediment yield would increase on 50 percent of the planning area, because of the soils exposed by overutilization. Following the monitoring period, sediment yield would decrease as vegetation manipulation was performed on 57,420 acres and stocking was adjusted to grazing capacity.

ANIMAL LIFE

SHORT-TERM IMPACTS TO TERRESTRIAL ANIMALS

Mule Deer

In general, where initial stocking resulted in vegetation overutilization and, consequently, range deterioration, impacts to crucial habitat would be expected.

Crucial Winter Range

Although in good to excellent condition, crucial deer winter range is considered to be the limiting factor for overall deer herd population on the planning area. Any impact that would degrade the condition of crucial winter range would impair its ability to support the deer herd during critical periods of high snowfall.

Initial stocking provides for increases of 3,124 live-stock AUMs on ten allotments containing crucial deer winter range. The planning area contains 21,405 acres of crucial winter range.

Shiner, Spring Creek, and Cottonwood Spring Allotments, comprising 2,541 acres (12 percent) of the crucial winter range, would be grazed at greater than 50 percent vegetation utilization. Cottonwood Spring has an AMP and the grazing season is compatible with deer winter use; therefore, crucial range in that allotment should not be impacted.

Spring Creek Allotment is grazed by cattle during the spring, fall, and/or early winter seasons. Because the nutritional quality of grass is low in the fall and winter, cattle feed more on forb and browse species during these seasons. Based on the proposed 190 cattle AUMs, present use for deer could be impacted on 960 acres (4 percent) of crucial winter range.

Shiner Allotment is grazed by sheep during the win-

ENVIRONMENTAL CONSEQUENCES

ter and early spring. Initial stocking proposes an increase of 1,544 sheep AUMs on this allotment, causing an initial vegetation utilization over 60 percent. Because of the dietary overlap between sheep and deer, especially during the winter, this alternative is expected to result in an impact to 797 acres (4 percent) of crucial deer winter range.

Actual use and vegetation utilization data for Diamond Rim, Brush Creek, and Red Mountain are not available. However, Table 4-1 indicates that vegetation utilization on these allotments would exceed grazing capacity. An impact is expected to occur on the 4,736 acres (22 percent) of crucial deer winter range found on these allotments.

Crucial deer winter range on 6,493 acres (31 percent of the planning area's crucial deer winter range) is expected to be impacted in the short term.

Based on field observation by Vernal District, impacts are not expected to adversely affect deer in the short term. This is due to the following reasons: (1) generally, crucial deer range is not grazed to any degree by cattle because of steep slopes and distance from water; (2) diets of cattle and deer have little overlap (less than 20 percent); and (3) deer have first use of spring grasses (the competitive portion of diet) for about 1 month before cattle graze in the area; by that time deer have moved on to summer ranges.

Crucial Yearlong Range

There are approximately 11,550 acres of crucial deer yearlong range in the planning area. Two allotments (Little Desert and Wetlands), comprising approximately 6,527 acres of crucial deer yearlong range, would be grazed at greater than 50 percent utilization (initial stocking would be 1,000 AUMs more than average use).

Little Desert Allotment is grazed by sheep during the winter and early spring seasons. Based upon initial stocking increases of 751 AUMs, vegetation utilization in this allotment would be over 60 percent. Competition between sheep and deer could occur because of dietary overlap, especially during the winter. Therefore, it is expected that 1,095 acres of crucial deer yearlong range on Little Desert Allotment could be affected by lowering grazing capacity.

Wetlands Allotment is grazed by cattle during the summer, fall, and winter seasons. Initial stocking would increase by 267 cattle AUMs on this allotment, resulting in vegetation utilization greater than 50 percent. Deer, especially fawns and lactating does, depend heavily on nutritious forage during the summer. At this time of year, there is a dietary overlap between deer and cattle for such forage. Therefore, the grazing capacity on approximately 5,432 acres of crucial deer yearlong range on the Wetlands Allotment could be reduced.

The adverse effects on 6,527 acres could be less on Little Desert and Wetlands Allotments because they are managed under AMPs which provide rest to the vegetation.

Elk

Elk use the planning area primarily for winter range. Although in good to excellent condition (USDI, BLM, 1981), elk winter range is considered to be a major factor limiting potential elk herd size. Therefore, any impact that would degrade the condition of this crucial habitat could affect elk populations.

Vegetation utilization for three allotments (Diamond Rim, Brush Creek, Red Mountain) is estimated to exceed 50 percent. Therefore, it is expected that 6,354 acres of crucial elk winter range (44 percent within Herd Unit 8) on these allotments could be impacted by reducing grazing capacity.

Pronghorn Antelope

This alternative provides for a transplant of 300 animals in nine allotments. This would increase stocking on allotments with crucial antelope yearlong range by 250 antelope AUMs; livestock would increase by 2,862 AUMs (Appendix 3, Table 1).

Initial stocking on Little Desert Allotment would exceed 60 percent utilization. This allotment is grazed by domestic sheep from November 1 to April 15. Forage competition between sheep and antelope has been documented (Beale and Smith, 1970; Wagner, 1976) and could be expected to increase under this alternative. It is expected that 25,115 acres of crucial yearlong antelope range could be affected on this allotment.

Waterfowl

Pariette Draw, part of the Wetlands Allotment, is the most productive waterfowl habitat in the planning area. It is the only waterfowl habitat expected to be affected. Under this alternative, there would be an increase of 267 cattle AUMs. Based upon initial stocking, vegetation utilization of the Wetlands Allotment would exceed 50 percent. Overgrazing of wetland areas reduces their quality as waterfowl feeding, nesting, and brood-rearing habitats. However, because the existing AMP and Habitat Management Plan (HMP) for the Wetlands Allotment provide for protection to wetland areas, it is expected that this alternative would result in little impact.

Sage Grouse

Crucial sage grouse winter range is located on the Shiner Allotment. This allotment is grazed by domestic sheep during the winter and spring months. This alternative provides for an increase of 1,544 sheep AUMs. Sagebrush is the major winter food item of sage grouse. Domestic sheep and antelope also depend heavily upon sagebrush during the winter

ENVIRONMENTAL CONSEQUENCES

months. Because initial stocking would exceed 60 percent utilization, crucial sage grouse winter range on the Shiner Allotment could be overgrazed.

Endangered Animal Species

American Bald Eagle

Overgrazing riparian vegetation would affect fish and waterfowl habitats, possibly resulting in lower productivity of these prey species. However, it is doubtful that this alternative would affect the bald eagle population because food does not appear to be a limiting factor.

Peregrine Falcon

Riparian vegetation would be overgrazed under this alternative; however, this would not affect populations because habitat and food sources in the planning area are not limiting factors for peregrine falcons.

Whooping Crane

The private wetland areas around Pelican Lake are used by whooping cranes during their migrations; however, they have not been seen on public lands. Therefore, this alternative should not affect whooping crane populations.

Black-Footed Ferret

Evidence indicates that prairie dogs compete directly with cattle for grasses and forbs, especially during the early spring and summer months. Because succulent forage is necessary to lactating female prairie dogs as well as to the survival of their young, overgrazing could adversely affect prairie dog populations. Therefore, this alternative could affect black-footed ferret habitat.

SHORT-TERM IMPACTS TO AQUATIC ANIMALS

There are 11 allotments that contain fisheries. Important factors which influence a productive fishery include streambank vegetation (cover and soil stability) and water quality (depth, velocity, oxygen content, temperature, sedimentation, bacterial concentrations, and animal wastes) (Meehan and Platts, 1978).

Under this alternative, there would be increases of livestock on five allotments and increases of big game on one allotment in the short term. Pelican Lake, Wetlands, and Horseshoe Bend Allotments are used only by cattle; use on these allotments would increase 374, 267, and 12 AUMs, respectively. Cook and Flue Knoll-Twin Knolls are used mostly by sheep, and use on these allotments would increase 346 and 164 AUMs, respectively. Big game use would increase 25 AUMs on Flue Knoll-Twin Knolls Allotments.

The proposed stocking increases to Young, Cook, Flue Knoll-Twin Knolls, and Pelican Lake Allotments are not expected to impact the Green River because of the small amount of established riparian vegetation,

the steep banks that drop off into the Green River, and the limited access to public lands. Only Wetlands and Horseshoe Bend Allotments, having 11 and 9 miles of riparian habitat, respectively, could impact the Green River by reducing fish habitat quality.

Ouray Road is a cattle allotment surrounding Brough Reservoir. Although stocking would be increased by 179 AUMs and big game by 49 AUMs, based on the above analysis, impacts to this fishery would be small because riparian vegetation adjacent to this reservoir is almost lacking due to the rocky soils and the large drawdowns of stored water.

Endangered Fish Species

This alternative would reduce the quality of fish habitat conditions in the Green River for three endangered species (Colorado squawfish, humpback chub, and bonytail chub) by a small unquantifiable amount. (See discussion in Aquatic Animal section.)

LONG-TERM IMPACTS TO TERRESTRIAL ANIMALS

Stocking livestock at grazing capacity in the fifth year would eliminate impacts to vegetation. This, in turn, would eliminate all short-term impacts to big game caused by overgrazing. The vegetation manipulation and changes in management level would provide increased forage on some allotments for big game. Although this would allow big game numbers to increase, populations would probably not reach prior stable numbers. The increases in vegetation production would improve habitat for the other animals discussed in the Short Term Impacts section with the possible exception of black-footed ferret and bald eagle. The increased vegetation could reduce visibility for prairie dogs (black-footed ferret prey base) and increase their vulnerability to predation. The continued loss of cottonwood trees could eliminate bald eagle perch sites.

LONG-TERM IMPACTS TO AQUATIC ANIMALS

Temporary increases in soil erosion caused by vegetation manipulation are not expected to impact fish habitat in the planning area because most affected allotments do not include fish habitat. Also, the large dilution factor of the Green River would negate the small increases in sedimentation. Long-term changes in stocking and continuation of the existing AMP could improve fish habitat conditions.

CONCLUSION

In the short term, increases in livestock AUMs would impact 5,186 acres (24 percent) of crucial deer winter range; 6,527 acres (56 percent) of crucial deer year-long range; 6,354 acres (44 percent of Herd Unit 8) of crucial elk winter range; and 25,115 acres of crucial antelope yearlong range by overutilizing vegetation.

ENVIRONMENTAL CONSEQUENCES

Big game populations would be kept below their biotic potential for a period of 5 years. After the monitoring period and subsequent livestock adjustments and improvement of vegetation production, big game populations would be expected to increase.

Overutilization would impact sage grouse habitat in Shiner Allotment. Populations would be below biotic potential until livestock and big game numbers were adjusted in the long term.

During the short term, stocking increases on Wetland and Horseshoe Bend Allotments would deteriorate fish habitat conditions; however, following the monitoring period and subsequent livestock adjustments, fish habitat conditions should improve.

LIVESTOCK GRAZING

INTRODUCTION

Specific actions that would affect livestock grazing and operators in this alternative are: (1) initial stocking; (2) priorities for future stocking; (3) management level; and (4) vegetation manipulation. Changes in livestock grazing resulting from those actions will be assessed as they relate to individual operations. The projected changes from active preference and average use are shown by operator size, class, and kind of livestock in Table 4-2.

SHORT-TERM IMPACTS

Initial stocking for livestock would be for 33,399 AUMs, an increase of 10,651 AUMs (32 percent) above average use. In this alternative, 38 allotments would have an increased initial stocking, seven allotments would have reduced initial stocking, and 20 allotments would maintain present stocking (average use).

The following impacts would occur:

1. Livestock grazing would be limited to average use on 13 allotments, affecting 22 operations.
2. Livestock grazing would be allowed at the grazing capacity indicated by current studies and/or the 1960 rangeland survey on 13 allotments. This would benefit 18 operations with a 5,032-AUM increase above average use.
3. Livestock grazing would be allowed at active preference on 37 allotments. This would benefit 50 operations with a 4,846-AUM increase above average use.
4. Livestock grazing would increase above active preference on two allotments. This would benefit two operations with a 773-AUM increase above average use.

LONG-TERM IMPACTS

After the fifth year of monitoring, forage not needed

to support present big game numbers would be given to livestock to benefit operators; however, it is doubtful that many allotments would reach active preference. Based on the projected vegetation production of 49,000 AUMs, it is expected that some allotments would reach active preference by the twentieth year, while others would be held below that level.

Vegetation manipulation is proposed on 33 allotments, increasing stocking for 47 operations in the long term. Allotments receiving vegetation manipulation are shown in Appendix 3, Table 1. This would require operators to commit to some funding and changes in their present operations. It would also require at least a 2-year period of non-use following vegetation manipulation. Each project would cause some change in the type of livestock management within individual allotments. However, vegetation manipulation would aid livestock production in the long term by providing better quality forage and more vegetation production.

AMPs specifying range improvements would be prepared on 27 allotments. This could affect 40 operators by changing their present operation to mitigate an immediate resource problem or enhance multiple use.

CONCLUSION

Initial stocking for 38 operators would be less than active preference. Sixty-six operations on 52 allotments would benefit from an average 36-percent increase in stocking. AMPs would affect 40 operations by changing present operation methods.

Vegetation manipulation would provide forage for increased stocking in the long term, benefitting 47 operations on 33 allotments.

RECREATION

SHORT-TERM IMPACTS

Hunting would increase because of the UDWR transplant of 300 antelope. This would provide an estimated additional 97 hunter days annually.

LONG-TERM IMPACTS

Vegetation manipulation projects proposed under this alternative would be constrained by multiple-use considerations and would not affect dispersed recreation areas. Therefore, no impacts to the dispersed areas identified in Chapter 3 are foreseen.

Based on projected long-term forage production and priority for future stocking for big game, their populations are expected to increase. This would provide for an increase in the number of hunter days provided.

ENVIRONMENTAL CONSEQUENCES

CONCLUSION

There would be short- and long-term increases in the number of hunter days provided.

SOCIOECONOMICS

SHORT-TERM IMPACTS

Ranch Income and Capital Value

In analyzing ranch income impacts, economic impacts to the average ranch in each category are quantified, even though the analysis may not accurately reflect actual impacts to individual ranchers. It is assumed that the operator would change herd size to reflect the change in stocking. The capital values would remain at present levels in the short term. Changes in stocking also cause modifications in active preference. This could impact ranch capital by affecting the "market value" of the permit.

With the initial stocking of this alternative, all ranch categories show increases in net cash income ranging from 1 percent (\$46) for small cattle ranches to 20 percent for both large (\$23,061) and small (\$3,026) sheep ranch categories (Table 4-3). In the fifth year, if active preference were reduced for ranch operations on 32 allotments (listed in Table 3-1), the capital value of the affected operators would also decrease.

Regional Economic Impacts

Portions of Uintah and Duchesne Counties are contained in the planning area. Because these two counties share many geographic and economic ties, impacts are discussed on a regional basis.

The regional economy would be impacted by: (1) changes in the local livestock industry; and (2) the number of hunters coming into the region, relative to big game herd sizes.

Assuming that each operator were to increase ranch income by the average amount for the ranch category he is in, the total additional income generated for increased initial stocking by this alternative would be about \$207,600. Using a direct income payment multiplier of 0.239 this would mean that \$49,600 of direct income was related to this alternative (0.02 percent of the projected 1982 total personal income in the two-county area). Farm income in the two-county area accounted for only about 3 percent of 1979 personal income.

Expenditures from the increased antelope hunting are estimated at \$3,000.

Initial livestock increases would show a slight positive impact on the local economy, as would initial benefits from increased antelope hunting.

Attitudes and Lifestyles

Limiting initial stocking and reducing active prefer-

ence in this alternative would cause negative reactions from the livestock operator. Some operators would be expected to resent BLM's action of concurring in the transplant of antelope in nine allotments in the short term. Recreationists would tend to support the transplant of antelope.

The interest in hunting would increase with the growth of population, especially with energy-related people. It can be expected that newcomers would assume ever-increasing roles in forming public opinion.

LONG-TERM IMPACTS

It is expected that allotments would have additional forage available for livestock grazing in the long term. However, due to the length of time and other uncertainties involved in estimating future range production, attempts to project more detailed income changes are not practical. It is expected that the overall long-term stocking would be between the present average use and the active preference. This would result in increased income from additional livestock sales. However, capital value of the permits would be reduced because of a lower active preference.

In the long term, fifth year livestock reductions would decrease income; however, increases in vegetation (after vegetation manipulation and changes in management levels) would allow livestock and big game to increase, thus increasing regional income. This perception would moderate in the long term because stocking would be up to active preference on allotments where forage would be available and no season-of-use changes would be imposed. In the long-term, recreationists would resent BLM actions which limited big game numbers.

CONCLUSION

This alternative would have short-term positive impact on ranch and regional incomes. Capital value of permits would decrease in the fifth year. In the long term, impacts to the regional economy would be positive as a result of increased vegetation production.

Livestock operators whose active preference was reduced at the beginning of the long term would experience negative attitudinal and lifestyle changes. Positive attitudinal change would be felt by recreation groups as big game numbers increased.

VISUAL RESOURCES

LONG-TERM IMPACTS

Since vegetation manipulation projects (chaining, clear-cutting, spraying, burning, or plowing) are not proposed for visual resource management (VRM) Class II areas, visual resources in these areas would not be affected (see Figure 3-10). In Class III and IV areas, vegetation manipulation projects would be de-

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signed to blend with the existing landscape, in accordance with BLM Manual 8431. Although vegetation manipulation in these areas could create temporary moderate to strong contrasts and degradations of scenic quality, once vegetation became reestablished contrasts would be low to moderate (Brown and Kisel, 1979).

CONCLUSION

In the long term, there would be temporary scenic quality degradation on some areas receiving vegetation manipulation.

UNAVOIDABLE ADVERSE IMPACTS

Increased stocking in the short term would result in unavoidable adverse impacts to vegetation. Those changes to vegetation would cause increased soil erosion and sediment yield, a reduction in quality of wildlife and fish habitats, and degradation of scenic quality. Initial stocking for 38 operators would be less than active preference.

When monitoring was completed and necessary adjustments in active preferences were made, ranch income and capital value would be reduced and livestock operators would resent BLM actions.

In the long term, vegetation manipulation would temporarily increase soil erosion and sediment yield and reduce scenic quality.

RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Overstocking rangelands for the short term of the grazing program would result in adverse impacts to all natural resources with the exception of impacts to socioeconomics, which would be positive. In the short term, overgrazing would occur, resulting in a short-term loss of plant density and vigor. This loss could accelerate erosion, increase stream sedimentation, and reduce fish habitat.

After stocking was adjusted to proper grazing capacity in the fifth year, vegetation would recover and density and vigor would be restored, if not improved, in the long term. Riparian vegetation and fish habitat would be maintained.

Vegetation manipulation projects would cause a 1- to 2-year loss in vegetation ground cover, resulting in increased erosion and sediment yield and loss of fish habitat. As vegetation became reestablished, vegetation production would increase and, within 20 years, benefits would exceed short-term losses.

Big game numbers would remain stable for at least 5 years. In the long term, wildlife numbers would in-

crease, although the prior stable and objective numbers would not be reached.

The temporary disruption of livestock operations could bring about greater stability to the livestock industry.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The short-term losses of vegetation productivity, soil, and big game are irretrievable. After 5 years, stocking would be adjusted to grazing capacity and vegetation production, big game habitat would improve and soil erosion would be reduced.

The temporary losses of grazing and soil immediately following vegetation manipulation are irretrievable but would result in no irreversible commitment to the resources.

Any loss of income from grazing reductions and postponement of grazing during vegetation manipulation is irretrievable. Some of this loss, however, is reversible because income from some allotments would increase above current levels.

ALTERNATIVE 2: LIVESTOCK FORAGE RECOMMENDATION

The analysis for this alternative follows the same format as Alternative 1. Documentation and explanation of impacts similar to Alternative 1 are not repeated in this alternative.

VEGETATION

SHORT-TERM IMPACTS

Initial stocking would increase livestock and big game use to 4,178 AUMs (125 percent of average use). This increase would overutilize vegetation on 31 allotments (245,385 acres, 46 percent of the planning area) (see Table 4-4).

Initial stocking on Wetlands Allotment would increase by 424 AUMs. However, because the AMP and HMP provide protection to riparian areas, little impact would occur. Other riparian areas would be maintained, as discussed in Alternative 1.

LONG-TERM IMPACTS

Stocking would be adjusted to grazing capacity following the 5-year monitoring period. Current utilization and grazing capacity data indicate that fifth year capacity would be about 40,000 AUMs, a reduction of about 1,750 AUMs from initial stocking.

Grazing capacity would be increased in the long term by improved management and vegetation manipulation. It is predicted that the 87,200 acres of vegetation manipulation proposed in this alternative, along

ENVIRONMENTAL CONSEQUENCES

with improved management, could increase grazing capacity by over 11,000 AUMs. A total of approximately 51,000 AUMs of forage would be produced by the end of the long term.

Because no fencing is proposed in this alternative, riparian vegetation would remain in fair condition.

CONCLUSION

This alternative would have a short-term adverse impact on vegetation on 46 percent of the planning area. Vegetation manipulation and improved management would increase grazing capacity by over 11,000 AUMs in the long term, bringing total vegetation production to 51,000 AUMs.

SOILS

Initial stocking would result in vegetation overutilization on 31 allotments (245,385 acres). Of that area, 54 percent (133,252 acres) is in high sediment yield, Class 3; 34 percent (83,015 acres) is in moderate sediment yield, Class 4; and 12 percent (29,118 acres) is in low sediment yield, Class 5. See Table 3-6 for a description of sediment yield class.

Following the monitoring period, stocking would be adjusted to grazing capacity, and soil erosion would be reduced.

Vegetation manipulation projects are proposed on 35 allotments (87,200 acres). Vegetation manipulation would cause moderate soil loss until vegetation became reestablished on treated areas (1-2 years); after that time, soil losses would decrease as vegetation cover increased. (An analysis of vegetation manipulation and the methods proposed are described in Alternative 1.)

CONCLUSION

During the short term, vegetation overutilization would increase soil erosion on 46 percent (245,385 acres) of the planning area. In the long term, erosion would decrease on the entire planning area.

WATER RESOURCES

Initially, increased stocking and overutilization on 46 percent of the planning area would result in an unquantifiable increase of coliform bacteria in streams where livestock and big game had access.

Part of the proposed vegetation manipulation would involve spraying with the herbicide 2,4-D. This herbicide degrades in 2 to 6 weeks and would not accumulate in the soil or enter the stream system (USDA, Agricultural Research Service, 1977). Chaining, clear-cutting, plowing, and burning would, by removing some vegetation cover, leave some soil exposed to higher sediment yield and surface runoff. Following reseeding, grass and browse species would become established in 1-2 years, reducing sediment yield.

In the long term, stocking would be adjusted to grazing capacity and sediment yield would be reduced.

CONCLUSION

Initially, vegetation overutilization would increase sediment yield on 46 percent of the planning area. In the long term, sediment yield would decrease as vegetation manipulation occurred on 87,200 acres and stocking was adjusted to grazing capacity.

ANIMAL LIFE

SHORT-TERM IMPACTS TO TERRESTRIAL ANIMALS

Mule Deer

Under this alternative, six allotments (Shiner, Spring Creek, Cottonwood Spring, Diamond Rim, Brush Creek, and Red Mountain) comprising approximately 7,277 acres (34 percent) of the crucial deer range would be overutilized. On 6,493 acres of crucial deer winter range (not including Cottonwood Spring) insufficient forage would be produced and the quality of crucial range would deteriorate. Because Cottonwood Spring has an AMP and the grazing season is compatible with deer use, crucial range in this allotment would not be affected.

Under this alternative, approximately 6,527 acres (31 percent) of the crucial yearlong deer range, would be overutilized in the short term. However, this would not affect deer populations.

Elk

Because of the seasons of use, kinds of livestock, and dietary overlap, stocking would exceed grazing capacity on Diamond Rim, Brush Creek and Red Mountain Allotments. Therefore, it is expected that the grazing capacity on 6,354 acres of crucial elk winter range could be reduced.

Pronghorn Antelope

Initial stocking on the Little Desert Allotment would exceed 60 percent utilization. Therefore, this alternative could adversely affect 25,524 acres of crucial yearlong antelope habitat on this allotment by reducing grazing capacity.

Waterfowl

Based upon an initial stocking of 1,200 AUMs (an increase of 424 cattle AUMs), vegetation utilization would exceed 50 percent on the Wetlands Allotment. This allotment is the most productive waterfowl habitat on the planning area and is grazed by cattle during the summer, fall, and winter seasons. Because overgrazing of wetland areas can reduce the quality of waterfowl feeding, nesting and brood-rearing habitats, this alternative could adversely impact waterfowl produc-

ENVIRONMENTAL CONSEQUENCES

tivity on the Wetlands Allotment. However, because the existing AMP and HMP provide for protection of wetland areas, this alternative would result in only a slight impact to waterfowl.

Sage Grouse

Based on an initial increase of 1,544 sheep AUMs on the Shiner Allotment, overutilization would occur. The Shiner Allotment is grazed by sheep during the winter and early spring seasons. Because sage grouse, domestic sheep, and antelope depend heavily upon sagebrush during the winter months and because initial stocking would exceed 50 percent utilization, the quality of crucial sage grouse winter range could be adversely affected on this allotment.

Endangered Animal Species

This alternative would not be expected to adversely impact peregrine falcon, whooping crane, bald eagle or black-footed ferret habitats on the planning area.

SHORT-TERM IMPACTS TO AQUATIC ANIMALS

Under this alternative, initial stocking would increase on six allotments involving riparian and fish habitats in the short term. A 424-AUM increase in cattle stocking on Wetlands Allotment would reduce fish habitat quality approximately 4.2 miles on the Green River. Because of the limited access, steep banks, and lack of riparian vegetation, stocking increases on Cook, Flue Knoll-Twin Knolls, and Pelican Lake Allotments would not impact the Green River.

Endangered Fish Species

The quality of fish habitat of the Green River for three endangered fish (Colorado squawfish, humpback chub, and bonytail chub) would be reduced by a small unquantifiable amount.

LONG-TERM IMPACTS TO TERRESTRIAL ANIMALS

By reducing livestock grazing in the fifth year, providing vegetation manipulation, and increasing management levels, habitat condition for most terrestrial species would improve, with the possible exception of the prairie dog and the black-footed ferret. The increased vegetation could reduce visibility for prairie dogs (black-footed ferret prey base) and increase their vulnerability to predation. Big game numbers would not be allowed to increase.

LONG-TERM IMPACTS TO AQUATIC ANIMALS

Although vegetation manipulation would cause small sediment increases in the Green River, the large dilution factor would negate impacts to fish habitat. The priority for future stocking would give livestock all forage above that needed for present big game use. Because stocking would be maintained at grazing capacity, fish habitat, including that for endangered fishes, would be maintained.

CONCLUSION

In the short term, 6,493 acres of crucial deer winter range would be overgrazed and the quality of the range would deteriorate. The quality of 6,527 acres of crucial yearlong deer range would also deteriorate. Grazing capacity on 6,354 acres of crucial elk winter range would be reduced, and 25,525 acres of crucial yearlong antelope range would be adversely affected. Big game habitat would improve in the long term. Fish habitat would be maintained in the Wetlands Allotment.

LIVESTOCK GRAZING

INTRODUCTION

The projected changes from active preference and average use are shown in Table 4-5 by size of operation and kind of livestock. Changes to operator size class data discussed below relate to the allotments and AUM changes shown in Appendix 3, Table 2.

SHORT-TERM IMPACTS

Initial stocking in this alternative would be 31,147 AUMs for livestock, an increase of 8,713 AUMs over average use. Thirty-seven allotments would have increased use; 21 allotments would have the same AUMs; and seven allotments would have reduced use. The average change would be 27 percent above average use.

The following impacts are expected to occur:

1. Livestock grazing would continue as proposed in Alternative 1 on 25 allotments, affecting 31 operations. This would cause a 2,676-AUM increase on 16 of the above allotments, affecting 20 operations, and would not change nine allotments, affecting 11 operations.
2. Livestock grazing would be limited to average use on 13 allotments, affecting 25 allotments.
3. Livestock grazing would be allowed at the grazing capacity indicated by current rangeland studies on two allotments. This would be a 2,222-AUM increase, benefitting two operations.
4. Livestock grazing would increase by 3,234 AUMs above average use to active preference on 20 allotments, benefitting 27 operations. One allotment, affecting one operation, would receive a 25-AUM reduction. Three allotments would continue at average use, affecting three operations.
5. Livestock grazing would be allowed to increase above active preference on one allotment, affecting three operations. This would be a 424-AUM increase.

As forage became available, it would be given to livestock to benefit livestock operators. Priority would be to (1) maintain average livestock use; (2) meet

ENVIRONMENTAL CONSEQUENCES

present big game needs: and (3) increase livestock use.

LONG-TERM IMPACTS

Based on the projected long-term vegetation production of 51,000 AUMs, most allotments would be able to meet active preference by the twentieth year.

Vegetation manipulation is proposed on 35 allotments (87,200 acres). This would affect 49 operations by increasing their AUMs in the long term. Allotments receiving vegetation manipulation are shown in Appendix 3, Table 2.

The proposed vegetation manipulation would probably require a commitment of lands and resources by the livestock operators involved. After treatment, at least a 2-year period of non-use would be required for establishment of new vegetation. While vegetation manipulation would cause changes in livestock management practices within individual allotments, it would benefit livestock production by providing better quality forage.

AMPs would be prepared for 27 allotments, affecting 43 operations. Twelve allotments with 16 operations would be managed with existing AMPs.

CONCLUSION

There would be an initial stocking increase of 8,556 AUMs. Fifty-two operations would be increased above average use, 26 would not change, and one would be reduced.

Forty-nine operations on 35 allotments would be affected in the long term by increasing AUMs through vegetation manipulations. AMPs would be prepared on 27 allotments affecting 43 operations by changing present operation methods.

RECREATION

LONG-TERM IMPACTS

Livestock increases and/or vegetation manipulation projects on Dry Fork, Red Mountain, and Spring Creek Allotments could affect primitive recreation values. Vegetation manipulation on Six Mile Draw (Shiner Allotment) would degrade primitive recreation values.

Stabilizing big game at present use would, with the projected increase in big game hunting demand in the Uinta Basin, lead to increased hunting pressures and reduced hunter success for deer and antlerless elk. Hunter success for antelope and antlerless elk, which are on a permit basis, would not change; however, the chance of getting a permit would decrease as the Basin population increased.

CONCLUSION

Increases in stocking and vegetation manipulation projects on seven allotments could adversely affect

dispersed recreational uses and values. There would be a progressive decline in big game hunter success and satisfaction.

SOCIOECONOMICS

SHORT-TERM IMPACTS

Ranch Income and Capital

In this alternative, all ranch categories would initially show increases in annual net cash income, ranging from 1 percent (\$15) for small sheep ranches to 17 percent (\$19,600) for the large sheep ranch category (Table 4-6). Capital values would remain at present levels.

Regional Economic Impacts

Assuming that each operator were to increase ranch income by the average amount for the category he is in, the total additional income generated by this alternative would be about \$258,000.

Using a direct income payment multiplier of 0.239, this would mean that \$61,662 of direct income was related to this alternative (0.04 percent of the 1982 projected total income in the two-county area).

Initial livestock increases would show a slight positive impact on the local economy.

No changes in regional income from big game hunting are expected as a result of this alternative.

Attitudes and Lifestyles

Limiting initial stocking and reducing active preference would cause negative reactions from livestock operators. The interest in hunting would increase with the growth of energy-related population. It can be expected that newcomers would assume ever-increasing roles in forming public opinion.

LONG-TERM IMPACTS

In the long term, recreationists would resent the limiting of big game numbers.

By the end of the long term (20 years), it is expected that allotments would have additional forage available for livestock grazing (see Livestock Grazing section of Alternative 2). Livestock increases in the long term would show a slight positive impact on the local economy.

CONCLUSION

This alternative would have short- and long-term positive impacts on ranch income and regional income. Capital value of the permits would decrease for some operations at the beginning of the long term (fifth year), but most of this value would be restored by the twentieth year.

Livestock operators who received reductions at the

ENVIRONMENTAL CONSEQUENCES

beginning of the long term would experience negative attitudinal and lifestyle changes. Recreation groups would resent limiting of big game numbers.

VISUAL RESOURCES

Vegetation manipulation projects in 16 allotments with VRM Class II areas could degrade existing scenic quality and violate visual management objectives for these areas. Vegetation manipulation in Class III and IV areas on 34 allotments would temporarily create scenic quality degradation; however, if projects were designed in conformance with BLM Manual 8431, VRM objectives would be met in the long term.

CONCLUSION

VRM Class II objectives would not be met in up to 16 allotments receiving vegetation manipulation. Projects with Class III and/or IV areas would result in short-term degradation of scenic quality.

UNAVOIDABLE ADVERSE IMPACTS

Initial stocking could reduce range productivity and increase localized soil losses and sediment yield. Big game numbers would remain stable.

In the long term, vegetation manipulation would temporarily increase sediment yield and would result in a loss of scenic quality for 1 to 2 years. VRM Class II objectives would not be met. Hunter success would decline and recreation user satisfaction would decrease.

RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT LONG-TERM PRODUCTIVITY

Overstocking rangelands for the initial 5 years of the grazing program would result in a short-term adverse impact for all resources, with the exception of socio-economics, which would be benefitted. Overgrazing would result in a short-term loss of plant density and vigor. This loss could cause accelerated erosion, increased sedimentation, and loss of quality recreation.

After grazing on rangelands was adjusted to proper grazing capacity in the fifth year, vegetation would recover and density and vigor would be restored, if not improved, in the long term.

Vegetation manipulation projects would cause a short-term loss in vegetation ground cover, resulting in increased erosion, loss of visual quality, increased sedimentation, and loss of livestock use. Visual quality would be degraded in VRM Class II areas. As vegetation became reestablished, vegetation production would increase and, within 20 years, benefits would exceed short-term losses. The temporary disruption of

livestock operations could bring about greater stability to the livestock industry.

IRREVERSIBLE OR IRRETRIEVABLE COMMITMENT OF RESOURCES

The short-term losses of vegetation productivity, soil, and recreation are irretrievable. After 5 years, it is expected that stocking would be adjusted to grazing capacity and most adverse effects would start to reverse. Within 20 years, most adverse effects would be reversed.

Temporary losses of grazing, visual quality, and soil immediately following vegetation manipulation would be irretrievable although this would not result in an irreversible commitment to these resources.

Any loss of income from livestock grazing reductions and postponement of grazing during vegetation manipulation is irretrievable. This loss would be reversible in the long term, however, because income would increase above current levels.

ALTERNATIVE 3: NO ACTION — ACTIVE PREFERENCE

This alternative varies from other alternatives because the short-term period is 1 to 20 years and the long-term period is after 20 years. This adjustment is necessary because there would be no 5-year monitoring period to determine proper grazing capacity, nor would stocking be adjusted to this capacity. Therefore, initial stocking (which is 12 percent higher than Alternative 1, the proposed action) would not change. This alternative recommends livestock grazing at active preference, an increase of 16,555 AUMs. No increased use in big game AUMs would be provided under this alternative. Also, under this alternative, no new AMPs would be written, existing AMPs would not be refined, and vegetation manipulation projects would not be performed.

VEGETATION

Initial and long-term stocking of livestock and big game would increase to 150 percent of average use. Data shows that this increase would overutilize vegetation on 37 allotments (347,863 acres or 66 percent of the planning area) (see Table 4-7). The detrimental effect of overgrazing on vegetation would continue as long as this alternative was in effect, and the rate of deterioration would accelerate with time. (Refer to Alternative 1, Vegetation section, for an analysis of impacts caused by vegetation overutilization.)

Though data does substantiate the occurrence of an adverse impact, it is not sufficient to quantify the extent of this impact. Therefore, no predictions of long-term

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changes in grazing capacity, ecological condition, etc., are made.

This alternative does not provide for fencing or reduction of livestock use in any riparian areas. Therefore, the condition of riparian areas accessible to livestock, especially cattle, would deteriorate, with the except of Wetlands Allotment.

CONCLUSION

This alternative would have short- and long-term adverse impacts to vegetation on 37 allotments (66 percent) of the planning area. The condition of riparian vegetation would deteriorate.

SOILS

The Shindy and Ouray Valley Allotments (3,624 acres) would have decreased soil erosion because of decreased livestock use. There are 37 allotments where vegetation would be overutilized. Of these allotments, 67 percent (233,373 acres) of the area is in high sediment yield, Class 3; 24 percent (82,383 acres) is in moderate sediment yield, Class 4; and 9 percent (32,107 acres) is in low sediment yield, Class 5. (See Table 3-6 for a sediment yield legend.)

CONCLUSION

Where vegetation was overutilized (37 allotments), sediment yield would increase. The Shindy and Ouray Valley Allotments would have decreased erosion as vegetation increased.

WATER RESOURCES

Sediment yield would increase on 37 allotments (66 percent of the planning area) because of soil exposed by vegetation overutilization. However, sediment yield would decline on Shindy and Ouray Valley Allotments as livestock use was reduced.

CONCLUSION

Sediment yield would increase on 37 allotments, would decrease on one allotment (547 acres), and would not change on 27 allotments.

ANIMAL LIFE

TERRESTRIAL ANIMALS

Mule Deer

This alternative proposes an increase of 3,745 livestock AUMs on 14 allotments containing crucial deer winter range. Vegetation overutilization could reduce grazing capacity on 6,493 acres of crucial deer winter range on the Shiner, Spring Creek, Red Mountain, Brush Creek, and Diamond Rim Allotments under this alternative.

This alternative proposes an increase of 1,287 livestock AUMs on five allotments containing crucial year-

long deer range. Two allotments (Wetlands and Eight Mile Flat), containing approximately 5,543 acres of crucial yearlong deer range, would be overgrazed under this alternative.

The Eight Mile Flat Allotment, containing 111 acres of crucial yearlong range, is grazed by sheep during the winter and early spring seasons. This alternative recommends an increase of 752 sheep AUMs for this allotment. Due to the dietary overlap between sheep and deer, especially during the winter, stocking increases could reduce grazing capacity on 111 acres of crucial deer yearlong range.

Grazing capacity on 5,432 acres of crucial winter deer range on the Wetlands Allotment could be reduced by overgrazing under this alternative. With proposed stocking, the quality of crucial range would deteriorate and, eventually, winter mortality could occur.

Elk

This alternative proposes an increase of 758 livestock AUMs on eight allotments containing crucial elk winter range. The grazing capacity on 6,354 acres of crucial winter elk range on Brush Creek, Red Mountain, and Diamond Rim Allotments would be reduced by overgrazing. Eventually elk would have to extend their range or mortality would occur.

Pronghorn Antelope

This alternative proposes an increase of 4,466 livestock AUMs on six allotments containing crucial yearlong antelope range.

Based on the initial increase of 2,753 sheep AUMs, vegetation would be overutilized on the Snyder Spring-Step Ant Allotment. This allotment is grazed by sheep during the winter and early spring seasons.

Competition for forage between sheep and antelope, especially during the winter, has been documented. Such competition could be expected to increase, especially on desert ranges, where water is scarce. Therefore, this alternative would reduce the grazing capacity of 5,873 acres of crucial yearlong antelope range on the Snyder Spring-Step Ant Allotment. However, based on the past history of this herd, it is doubtful that much impact to antelope would occur.

Waterfowl

This alternative proposes an increase of 267 cattle AUMs on Wetlands and West Pelican Lake Allotments, which contain major waterfowl use areas. However, because the existing AMP and HMP for this allotment provides protection to wetland areas, little impact would occur.

Sage Grouse

This alternative proposes an increase of 4,034 live-

ENVIRONMENTAL CONSEQUENCES

stock AUMs on eight allotments containing crucial sage grouse habitat.

Because of vegetation overutilization and forage competition between sage grouse, sheep, and antelope, the grazing capacity of crucial winter sage grouse habitat on the Shiner Allotment could be reduced under this alternative.

The East Huber and Cook Allotments provide crucial spring sage grouse strutting grounds. Initial stocking would overutilize vegetation on the East Huber Allotment, therefore adversely affecting sage grouse reproductive habitat.

Endangered Animal Species

The vegetation overutilization that would occur as a result of this alternative would degrade riparian habitat quality. Even though riparian areas provide valuable feeding habitats for peregrine falcons, this alternative would not affect peregrine falcon because food does not appear to be a limiting factor.

This alternative is expected to adversely impact bald eagle habitat by resulting in loss of perching sites (cottonwood trees). This alternative would also adversely affect prairie dogs (black-footed ferret prey base) by causing direct competition for spring grasses.

AQUATIC ANIMALS

Of the 11 allotments that contain riparian habitat, only three have the potential to affect fisheries. Stocking at active preference would increase cattle grazing by 257 AUMs. (See Alternative 1 for analysis and rationale.)

Wetlands and Horseshoe Bend are cattle allotments located adjacent to the Green River. Stocking would increase by 225 AUMs. This increase would cause progressive deterioration of riparian vegetation in bottoms of the Green River and reduce the quality of the fish habitat condition along 3.2 miles of stream-bank in Horseshoe Bend Allotment.

Endangered Animal Species

This alternative would reduce the quality of fish habitat conditions in the Green River for three endangered species (Colorado squawfish, humpback chub, and bonytail chub) by a small unquantifiable amount. (See discussion in Aquatic Animal section.)

CONCLUSION

Increased stocking on Wetlands and Horseshoe Bend Allotments would reduce the quality of the Green River fishery. There would be a slight negative impact expected on the warm-water fishery at Pelican Lake.

Big game habitat would be degraded and populations would decline. Bald eagle, black-footed ferret, and endangered fish would be adversely affected.

LIVESTOCK GRAZING

INTRODUCTION

Stocking and changes from average use are shown in Table 4-8 by size of operation and class of animal. Changes to operations and the size class discussed below relate to the allotments and AUMs shown in Appendix 3, Table 3.

Under this alternative, livestock grazing would increase by 16,555 AUMs above average use. Fifty-nine allotments would have increased use, two allotments would have reduced use, and four allotments would have the same use.

The following impacts would occur:

1. Livestock grazing would be allowed at active preference on 65 (all) allotments, affecting 92 operations. Eighty-six operations on 59 allotments would have an 16,555-AUM increase, four operations on four allotments would have no change, and two operations on two allotments would have a 35-AUM decrease.

Management levels would be reduced on 12 allotments presently having AMPs, affecting 16 operations by reducing forage production.

There would be no vegetation manipulation under this alternative.

CONCLUSION

Initially, 86 operations would experience a 16,555-AUM increase above average use. This would result in short-term benefit for livestock operators. In the long term, rangelands would deteriorate because of vegetation overutilization and livestock production would decrease. AMPs and vegetation manipulation projects would not be implemented, thus limiting livestock forage production.

RECREATION

Under this alternative, overgrazing would occur on the 37 allotments (66 percent of the planning area) identified in Table 4-7. Overgrazing would cause progressive vegetation changes (e.g., increase areas of pinyon-juniper and sagebrush), increased erosion, and reduced scenic values. Such changes would have a negative impact on recreation values associated with all dispersed sites listed in Table 3-12 with the exception of Pine Ridge (No. 15). Eroded gulleys would create obstacles and safety hazards to off-road vehicles (ORVs) and snowplay use. Intruding pinyon-juniper trees and sagebrush would also reduce the area available for such activities. In some cases, depending on season of use, the physical presence of greater numbers of livestock would affect recreational activities, values, or aesthetics.

Overgrazing would cause a long-term decline in big

ENVIRONMENTAL CONSEQUENCES

game numbers. This would result in less wildlife sight-seeing opportunity, reduced hunter success, and a decline in the amount of hunting activity in the planning area. The number of hunter days that would be lost is not quantifiable but would probably constitute a large portion of the present hunting activity.

CONCLUSION

There would be a progressive long-term degradation of dispersed recreational values throughout the planning area. A progressive decline in big game hunter success and the amount of hunting activity would also occur.

SOCIOECONOMICS

RANCH INCOME AND CAPITAL VALUES

With the stocking of this alternative, all ranch categories would show increases in annual net cash income ranging from 1 percent (\$46) for small cattle ranches to 34 percent (\$5,144) for small sheep ranch categories (Table 4-9). Capital values would remain at present levels in all categories.

Stocking at current active preference would result in increased income from the additional grazing and retained capital value of the permits in the short term. However, in the long term, range deterioration would decrease income and capital values because livestock production would not be maintained.

REGIONAL ECONOMIC IMPACTS

If each operator were to increase ranch income by the average amount for the ranch category he is in, the total additional income generated would be about \$481,700. This would mean that \$115,100 of direct income in the two-county area was related to this alternative (0.06 percent of the projected 1982 total income).

Initial livestock increases would result in a small positive impact on the local economy in the short term. However, in the long term, range deterioration would adversely impact the local economy. Income from big game hunting would not change in the short term; however, in the long term, range deterioration would affect big game numbers, and therefore, reduce income received from hunting.

ATTITUDES AND LIFESTYLES

The interest in hunting would significantly increase with the growth of energy-related population. It can be expected that newcomers would assume ever-increasing roles in forming public opinion. In the long term, recreationists would resent limiting of big game numbers. In addition, recreationists would contest continued management grazing as unplanned use of public lands in both the short and long terms.

CONCLUSION

This alternative would have an overall positive impact on ranch income and capital value of the permits through the long term. Impacts to the regional economy would also be slightly positive through the long term.

Livestock operators would experience positive attitudinal and lifestyle changes while negative attitudinal change would be felt by recreationists.

VISUAL RESOURCES

If stocking increased to present active preference, overgrazing would result on 37 allotments. The ultimate effect would be reduction in amount and variety of vegetation, increased erosion, and a progressive degradation of scenic quality.

CONCLUSION

There would be progressive degradation of scenic quality.

UNAVOIDABLE ADVERSE IMPACTS

Overgrazing would occur on 37 allotments resulting in range and riparian vegetation deterioration. There would be localized increases in sediment yield where vegetation overutilization occurred. Big game populations and endangered animal species habitat would decline. Fish habitat conditions on Horseshoe Bend Allotment would continue to deteriorate.

In the short term, two operations would have reduced use. Ranch income, capital values, and regional income from big game hunting would decrease.

There would be a progressive deterioration of scenic quality throughout the majority of the planning area.

RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Vegetation overutilization would progressively reduce the natural and development potential of 66 percent of the planning area and, in the long term, reduce potential for vegetation rehabilitation. Though socioeconomic impacts could benefit in the short term, there would be a long-term income and capital loss as rangelands continued to deteriorate.

In both the short and long terms, grazing could exceed grazing capacity, resulting in losses of plant density and vigor. These losses would cause a long-term deterioration of riparian vegetation, accelerated erosion, increased stream sedimentation, decline of

ENVIRONMENTAL CONSEQUENCES

fish habitat condition, and loss of quality recreation days.

Big game numbers would possibly increase for a few years. However, as rangelands continued to deteriorate, numbers of big game, upland game, and most other forms of wildlife would decline.

Continued overgrazing would cause a long-term decline of scenic quality, reduced aesthetics, and quality of the recreational experience.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Continued overstocking would result in irreversible adverse impacts to all resources. As rangelands continued to deteriorate, many resource values would be lost, never to be retrieved. Results of this alternative probably portray the worst situation that could occur to resources as a result of proposed alternatives. Though impacts are irreversible with this alternative, the intensity of grazing use would not be irreversible. However, as long as this alternative remained in effect, the adverse impacts would continue.

ALTERNATIVE 4: NO CHANGE — AVERAGE USE

VEGETATION

SHORT-TERM IMPACTS

The condition of rangeland vegetation is a reflection of its past and present grazing use. With no change in stocking or use patterns, situations both favorable and unfavorable to optimum rangeland vegetation condition and productivity would continue. Initial stocking would be 22,748 AUMs for livestock and 10,454 AUMs for big game. While present production of the planning area is estimated to be 40,000 AUMs, present grazing distribution results in some allotments being underutilized while others are overutilized. According to available data, vegetation overutilization and/or stocking exceeding grazing capacity presently occurs on 19 of the 65 allotments (109,584 acres, 21 percent) in the planning area; this would continue under this alternative (see Table 4-10). (See Alternative 1 for analysis and rationale of adverse impacts caused by vegetation overutilization.)

Because average use by livestock would be maintained, little change in the condition of riparian areas is expected in the short term.

LONG-TERM IMPACTS

The proper grazing capacity of each allotment would be determined during the 5-year monitoring period and stocking would be adjusted to this level. Utilization and grazing capacity data indicate that current forage production is about 40,000 AUMs. If forage

production did not change during the monitoring period, stocking could increase by about 7,000 AUMs.

Analysis shows that the vegetation manipulation (24,360 acres) and changes in management levels (13 allotments with new AMPs) planned under this alternative could increase grazing capacity by about 3,000 AUMs by the twentieth year. (See Alternative 1, Vegetation section, for rationale and studies cited.)

CONCLUSION

In the short term, this alternative would allow vegetation overutilization to continue on 21 percent of the planning area. Vegetation manipulation and improved management would allow an increase of about 3,000 AUMs in the long term which, when added to the estimated current production, would provide a total of approximately 43,000 AUMs.

Riparian vegetation condition would remain about the same under this alternative.

SOILS

Short-term impacts of vegetation overutilization on 109,578 acres (19 allotments, 21 percent of the planning area) would increase soil loss on localized areas. Of this area 45 percent (49,559 acres) is in high sediment yield, Class 3; 44 percent (47,816 acres) is in moderate sediment yield, Class 4; and 11 percent (12,203 acres) is in high sediment yield, in Class 5. (See Table 3-6 for sediment yield class legend.)

Vegetation manipulation would be implemented on approximately 24,360 acres in 13 allotments. Under this alternative, 2 to 3 years of increased erosion could be expected on areas receiving vegetation manipulation.

CONCLUSION

During the short term, soil erosion would increase on 19 allotments (109,578 acres, 21 percent of the planning area) where vegetation overutilization occurred. In the long term, erosion on these allotments would decrease as stocking was reduced to grazing capacity. Vegetation manipulation would further reduce soil erosion on 13 allotments (24,360 acres).

WATER RESOURCES

There would be 19 allotments (109,578 acres) where vegetation would be overutilized causing an increase in sediment yield.

Vegetation manipulation on 13 allotments (24,360 acres) would initially increase sediment yield; however, when vegetation became reestablished, sediment yield would decrease.

CONCLUSION

On 19 allotments (109,578 acres), where vegetation

ENVIRONMENTAL CONSEQUENCES

was overutilized, sediment yield would increase; however, in the long term, yield would decrease when stocking was adjusted to grazing capacity. Vegetation manipulation on 13 allotments (24,360 acres) would decrease sediment yield in the long term.

ANIMAL LIFE

TERRESTRIAL ANIMALS

Initial stocking under this alternative is a continuation of average livestock and present big game use. Under this alternative, livestock and big game use would be 22,748 and 10,454 AUMs, respectively.

Mule Deer

Overgrazing would reduce grazing capacity on 5,696 acres of crucial deer winter range on the Spring Creek, Red Mountain, Diamond Rim, and Brush Creek Allotments. However, these changes would not affect deer populations.

Under this alternative, there would be no allotments where initial stocking would exceed 50 percent utilization or where competitive use between livestock and big game would exceed grazing capacity. Therefore, it is expected that the grazing capacity of crucial year-long deer range would increase.

Elk

The grazing capacity on 6,354 acres of crucial winter elk range on Brush Creek, Red Mountain, and Diamond Rim Allotments would be reduced by overgrazing under this alternative. However, this would not impact elk populations.

Pronghorn Antelope

Overutilization is not predicted to occur on allotments containing crucial antelope range; therefore, some improvement in grazing capacity on those ranges would be expected.

Waterfowl

Under this alternative, there are no allotments containing waterfowl habitat where initial stocking would result in overutilization or where competitive use between livestock and big game would exceed grazing capacity. Therefore, this alternative is expected to maintain the quality of major waterfowl use areas.

Sage Grouse

Because initial stocking would not overutilize vegetation in crucial sage grouse habitat, this alternative is not expected to affect the sage grouse habitat.

Endangered Species

This alternative is not expected to adversely impact peregrine falcon, whooping crane, or black-footed ferret habitats. The continued loss of cottonwood trees

along the Green River could adversely affect the bald eagle.

SHORT-TERM IMPACTS TO AQUATIC ANIMALS

Under this alternative, average use would continue. Riparian areas in Horseshoe Bend (3.2 miles), Green River Bottoms (12.8 miles), and Wetlands (4.2 miles) Allotments adjacent to the Green River would be maintained.

LONG-TERM IMPACTS TO TERRESTRIAL AND AQUATIC ANIMALS

Stocking adjustments made after the 5-year monitoring period would eliminate short-term impacts to crucial deer winter range on Spring Creek, Red Mountain, Diamond Rim, and Brush Creek Allotments, and to crucial elk winter range on Red Mountain and Diamond Rim Allotments. The riparian habitat and, consequently, the habitat for fish and endangered fish species in the Green River would be maintained.

CONCLUSION

In the short term, some crucial big game range would continue to deteriorate. In the long term, adverse impacts to crucial big game range would be eliminated.

LIVESTOCK GRAZING

Initial stocking proposed under this alternative is average use (20,684 AUMs). On 59 allotments, use would be less than active preference, limiting the operators' potential to change their operations. Eighteen of these allotments would be grazed at less than average use and one allotment (Red Mountain) would not be grazed by livestock. On 12 allotments, use would be within 10 AUMs of active preference.

In the long term, stocking would be adjusted to grazing capacity. This would result in increased use for some operators. However, some operators could have reduced use, especially in areas containing crucial deer winter range.

Vegetation would first be provided to meet big game needs on 19 allotments with crucial big game ranges.

Vegetation manipulation would occur on 13 allotments (24,360 acres). This would affect 23 operations by increasing use over the long term. Vegetation manipulation would require a 2- to 3-year period of non-use and could change management practices.

AMPs would be prepared on 13 allotments, affecting 23 operations by changing their present operation. The 12 existing AMPs (affecting 16 operations) would be kept current.

CONCLUSION

AMPs would affect 23 operations by changing their present management practices to more intensive

ENVIRONMENTAL CONSEQUENCES

management. In the long term, vegetation manipulation would increase grazing capacity on 13 allotments, affecting 23 operations.

RECREATION

Vegetation manipulation on two allotments could adversely affect dispersed recreation values on Parley Canyon and Water Canyon 2 by degrading sight-seeing values.

On 40 to 50 percent of the planning area, forage production would permit increases in big game use. The magnitude of this increase is not quantifiable; however, it would probably provide for an increase in big game hunter days.

CONCLUSION

On two allotments, dispersed recreation values and uses could be adversely affected by vegetation manipulation. There would be a long-term increase in the number of hunter days provided by the planning area.

SOCIOECONOMICS

RANCH INCOME AND CAPITAL VALUES

During the short term of this alternative, livestock grazing would be maintained at average use; therefore, there would be no definable changes in ranch income. However, the value of grazing permits could change because of the inability of operators to activate more than average use. Table 4-11 summarizes the impacts from changing active preference to average use for the various ranch categories. Assuming a value of \$50 per AUM, the average large sheep operation would experience the most severe economic impact, with a \$45,000 decrease in permit capital value in the short term. In the long term, some allotments, especially those not containing crucial big game habitat, would have some grazing permits restored.

REGIONAL ECONOMIC IMPACTS

The regional economy could be impacted by changes in the local livestock industry. The number of hunters in the region would increase relative to big game herd sizes. However, ranch income would not change measurably as a result of this alternative. The reduction in capital value of permits would have a more subtle, although slight, effect on the regional economy.

Because big game numbers would not change as a result of this alternative, there would not be any related change in hunter-generated regional income in the short term. Increased livestock and big game stocking in the long term would increase the actual income, but would not contribute greatly to the regional economy.

ATTITUDES AND LIFESTYLES

Livestock operators would resent curtailment of ac-

tive preference. The interest in hunting would increase with the growth of energy-related population. It can be expected that newcomers would assume ever-increasing roles in forming public opinion. In the long term, recreationists would approve increases in big game numbers.

CONCLUSION

Livestock operations would experience a short-term impact as a result of loss of capital value. Some of that loss would be restored in the long term. Livestock operators would resent the loss of active preference. In the long term, increases in big game numbers would increase recreation income. Recreationists would approve increases in big game numbers.

VISUAL RESOURCES

Vegetation manipulation projects in eight allotments with VRM Class II areas could degrade existing scenic quality and violate visual management objectives for these areas. Treatment in Class III and IV areas would create short-term degradation of scenic quality; however, with design in conformance with BLM Manual 8431, VRM objectives would be met in the long term.

CONCLUSION

VRM Class II objectives would not be met in up to 8 allotments receiving vegetation manipulation. Manipulation in up to 12 allotments with Class III and/or IV areas would result in short-term degradation of scenic quality.

UNAVOIDABLE ADVERSE IMPACTS

Vegetation overutilization on 21 percent of the planning area during the short term would cause a localized increase in soil erosion and sediment yield, and a reduction in grazing capacity of 5,696 acres of crucial winter range and 6,354 acres of crucial winter elk range.

In the long term, vegetation utilization and manipulation would cause a localized temporary increase in sediment yield from runoff and increased soil erosion. Riparian vegetation would remain the same and some recreation values would be affected. The capital value of permits would decrease and livestock operators' attitudes would deteriorate. Scenic quality would be degraded by vegetation manipulation.

RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Overstocking rangelands for the initial 5 years of the grazing program, would result in a short-term adverse impact to all resources. Overgrazing would result in

ENVIRONMENTAL CONSEQUENCES

accelerated erosion, increased stream sedimentation, and loss of quality recreation days.

After grazing on rangelands was adjusted to proper grazing capacity in the fifth year, vegetation would recover and density and vigor would be restored, if not improved, in the long term. Quality in recreation days would increase.

Vegetation manipulation projects would cause a short-term loss in vegetation, resulting in increased erosion, loss of visual quality and sedimentation. Visual quality would be degraded in VRM Class II areas. As vegetation became reestablished, ground cover would increase beyond current condition and, within 20 years, benefits would exceed short-term losses.

Big game numbers would remain stable for at least 5 years. After 5 years, big game would be allowed to increase; prior stable and objective numbers would be reached within 20 years on some allotments. The short-term disruption of livestock operations would, in the long term, bring about greater stability to the livestock industry.

IRREVERSIBLE OR IRRETRIEVABLE COMMITMENT OF RESOURCES

The short-term losses of vegetation productivity, soil, big game, and recreation are irretrievable. After 5 years, stocking would be adjusted to grazing capacity and most adverse effects would start to reverse.

The short-term (2-3 years) loss of grazing, visual quality, and soil immediately following vegetation manipulation is irretrievable but would result in no irreversible commitment to the resources.

Any loss of income from grazing reductions and postponement of grazing during vegetation manipulation is irretrievable. This loss would be reversible, however, because in the long term income would increase above current levels.

ALTERNATIVE 5: WILDLIFE HABITAT RECOMMENDATION

VEGETATION

SHORT-TERM IMPACTS

Initial stocking in this alternative is 22,748 AUMs for livestock and 10,830 AUMs for big game. Big game use on Red Mountain Allotment would exceed grazing capacity. The season of use on Brush Creek and Paddy's Gap Allotments would be changed to eliminate spring grazing by livestock. On those allotments, present stocking exceeds grazing capacity according to the 1960 range survey (see Table 3-3). The elimination of spring use by livestock would be beneficial to plant growth and reproduction which, in turn, could

result in an increase in grazing capacity. (See analysis of vegetation in Alternative 1 for rationale and references cited.)

This alternative proposes fencing on 55 acres of riparian vegetation on the Horseshoe Bend Allotment to reduce livestock use. Therefore, it is expected that there would be improvement in the condition of this riparian area.

LONG-TERM IMPACTS

The proper grazing capacity of each allotment would be determined during the 5-year monitoring period and stocking would be adjusted to this level. Vegetation utilization and grazing capacity data indicate that current forage production is about 40,000 AUMs. If forage production did not change during the monitoring period, use could increase by about 7,000 AUMs above the present stocking of 33,202 AUMs. (With the possible exception of Brush Creek and Paddy's Gap Allotments, it is unlikely that monitoring would indicate that there could be any increase in use on the allotments listed on Table 4-4.)

Grazing capacity in the long term could be increased by improved management and vegetation manipulation. Analysis shows that the 42,650 acres of vegetation manipulation proposed in this alternative, along with the improved management, could increase grazing capacity by about 6,000 AUMs. (See the analysis of impacts to the Vegetation section, Alternative 1 for rationale and studies cited.)

Of the 3,643 acres of riparian/marsh vegetation in the planning area, 5 acres on Green River Bottoms Allotment and 50 acres along Nine Mile Creek in Bull Canyon and Devils Canyon Allotments would be fenced to exclude livestock in the long term. The condition of the riparian vegetation within the exclosures would improve, while that accessible to cattle would remain unchanged. (See the analysis of impacts to vegetation in Alternative 1 for rationale and references cited.)

CONCLUSION

The short term of this alternative would allow big game use in excess of grazing capacity on Red Mountain to continue. Vegetation manipulation and improved management would allow an increase of about 6,000 AUMs in the long term which, when added to the estimated current production, would provide a total of about 46,000 AUMs.

SOILS

Under this alternative, vegetation overutilization on Red Mountain Allotment would result in increased erosion on 17,753 acres. In the long term, increases in vegetation production and adjustment of stocking to grazing capacity would reduce erosion throughout the planning area.

ENVIRONMENTAL CONSEQUENCES

After vegetation became reestablished following vegetation manipulation projects on 42,650 acres erosion would decrease.

CONCLUSION

During the short term, erosion would increase. Erosion would begin to decrease as stocking was adjusted to grazing capacity and vegetation production increased in the long term. As vegetation became reestablished following manipulation on 42,650 acres erosion would decrease further on 35 allotments.

WATER RESOURCES

In the short term, sediment yield would decrease as vegetation overutilization was eliminated. In the long term, vegetation manipulation on 42,650 acres would result in a temporary increase in sediment yield; however, as vegetation became reestablished, sediment yield would decrease.

CONCLUSION

Sediment yield would initially decrease followed by temporary increases during vegetation manipulation on 42,650 acres.

ANIMAL LIFE

TERRESTRIAL ANIMALS

This alternative recommends an increase of 10,218 big game AUMs to meet either prior stable deer numbers or long-term management objectives for antelope and elk.

Mule Deer

Based on initial stocking, vegetation would be overutilized on the Red Mountain Allotment under this alternative. Therefore, overgrazing could initially reduce grazing capacity on 960 acres of crucial winter deer range on this allotment. In the long term, deer populations would increase as livestock use decreased.

Elk

Based on survey data, initial use on Red Mountain Allotment would exceed grazing capacity. However, this alternative would eliminate spring livestock grazing on the Brush Creek Allotment. This action would reduce forage competition and prevent overgrazing on this allotment.

Because this alternative does not reduce initial use on the Red Mountain and Diamond Rim Allotments, overgrazing could initially reduce grazing capacity on 5,310 acres of crucial winter elk range on these allotments.

This alternative provides for a long-term increase of 1,039 elk AUMs on eight allotments containing crucial winter elk range.

Pronghorn Antelope

This alternative would not impact antelope in the short term. In the long term, antelope populations would increase as livestock use was decreased.

Waterfowl

This alternative would not impact waterfowl.

Sage Grouse

Under this alternative, there would be no allotments containing either crucial spring or crucial winter sage grouse habitat where either initial stocking would overutilize vegetation or where competitive use between livestock and big game would exceed grazing capacity. Therefore, this alternative is not expected to reduce grazing capacity of crucial spring or winter sage grouse habitats.

Endangered Animal Species

This alternative would adversely impact bald eagles by reducing cottonwood trees (perching sites) along the Green River. No other endangered species would be impacted.

AQUATIC ANIMALS

Under this alternative, big game numbers would increase and livestock stocking would decline as forage was needed to facilitate big game populations. Also, fencing is proposed to protect important riparian habitats. Therefore, fish habitat condition would be improved.

CONCLUSION

Big game populations would increase and habitat would improve with the exception of range in the Red Mountain Allotment. Populations would increase toward prior stable objective levels. Bald eagles would be adversely impacted by a reduction of cottonwood trees (perching sites). Riparian habitat would initially improve or remain static and would improve over the long term.

LIVESTOCK GRAZING

INTRODUCTION

Initial stocking for livestock would be 22,748 AUMs, the same level as average use. Changes would occur in the long term because of vegetation manipulation and continued improved management levels. Changes discussed below are shown by size of operation and class of animal. The size of operation and number of operators relate to the AUMs and allotment information shown in Appendix 3, Table 5.

In this alternative, one operation would have an increase in AUMs, one operation would have reduced AUMs, and 63 operations would have the same AUMs.

ENVIRONMENTAL CONSEQUENCES

The following impacts would occur:

1. Operations would not change from the present use of 22,748 AUMs.
2. As big game numbers increased livestock use would decrease.

Big game would receive the initial forage improvement benefits from range improvements. However, on 35 allotments affecting 50 operations, future increases in AUMs could be expected for livestock grazing. Thirty allotments would be stocked at less than active preference.

Vegetation manipulation would occur on 35 allotments, primarily to benefit big game production. However, 50 operators would be affected by requiring rest on the treated areas. Vegetation manipulation would improve forage for livestock on these allotments by providing better quality feed in the long term.

Riparian vegetation would be fenced from livestock grazing on 5 acres along the Green River. This would affect one operation on one allotment. Also, two allotments and two operations would be affected by fencing along Nine Mile Creek to protect watershed resources from livestock grazing.

The management levels on the 12 allotments and 16 operations presently having AMPs would continue. Seasons of use would be changed to eliminate spring grazing, affecting five operations on the Brush Creek and Paddy's Gap Allotments by changing their present method of operation.

CONCLUSION

Initial stocking in this alternative would not change from average use and would not affect the operators or their operations on 65 allotments. The 15 operations on 12 allotments with AMPs would continue at the same management level. Livestock grazing would be reduced as wildlife needed forage. Vegetation manipulation on 35 allotments would temporarily affect 52 operations in the short term by requiring rest to the treated areas. In the long term, treatment would improve forage production.

RECREATION

Increasing big game forage and populations to prior stable objective levels would provide increased hunting. The projected hunting visitor day increases are as shown in Table 4-12.

CONCLUSION

Big game hunting would increase with implementation of alternatives.

SOCIOECONOMICS

RANCH INCOME AND CAPITAL VALUES

In this alternative, four ranch categories would show decreases in annual net cash income, ranging from \$1,816 (2 percent) for large cattle ranches to \$232 (5 percent) for the small cattle ranch category (Table 4-13). Income for the large sheep category would remain at the present level.

As big game numbers increased, forage would be taken from livestock and given to big game, thereby reducing ranch income through the long term. Reductions would also decrease the capital value of the affected operations.

REGIONAL ECONOMIC IMPACTS

The regional economy would be impacted by changes in the local livestock industry and the number of hunters coming into the region, relative to big game herd sizes.

If prior stable and objective big game numbers were reached, expenditures from the increased big game hunting are estimated to be about \$449,000 (see Table 4-14). This would mean that \$536,000 of direct income was related to this alternative (0.3 percent of the projected 1982 total personal income in the two-county area).

In the long term, livestock and permit reductions would decrease income and capital value; however, increases in vegetation production (after vegetation manipulation and changes in management levels) would allow big game to increase and would provide increased regional income.

ATTITUDES AND LIFESTYLES

Livestock operators would perceive this alternative as a threat to ranch income and capital value. Short- and long-term negative attitudinal and lifestyle impacts would occur to livestock operators because of management favoring big game over livestock.

CONCLUSION

This alternative would produce negative impacts on the livestock operators that would lose forage and permit values and would have a slight negative impact on the regional economy. However, income from increased big game hunting would have a slight positive impact. Ranchers would have negative attitudes, while hunters would experience positive attitudes.

VISUAL RESOURCES

Vegetation manipulation projects in 17 allotments with VRM Class II areas could degrade existing scenic quality and violate VRM objectives. Vegetation manipulation in Class III and IV areas would create short-term degradation of scenic quality; however, with

ENVIRONMENTAL CONSEQUENCES

treatment design, in accordance with BLM Manual 8431, VRM objectives would be met in the long term.

CONCLUSION

VRM Class II objectives would not be met in up to 17 allotments receiving vegetation manipulation. Vegetation manipulation projects in up to 34 allotments with Class III and/or IV areas would result in short-term degradation of scenic quality.

UNAVOIDABLE ADVERSE IMPACTS

Unavoidable adverse impacts would occur to vegetation and soils on the Red Mountain Allotment. Beginning in the short term and continuing through the long term, affected ranch operators would lose income and capital values.

RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Overstocking rangelands on the Red Mountain Allotment would result in a short-term adverse impact to all resources, with the exception of socioeconomics which would be benefitted in the short term.

After grazing on rangelands was adjusted to grazing capacity in the fifth year, vegetation would recover and density and vigor would be restored, if not improved, in

the long term. In the long term, riparian vegetation would not improve.

Vegetation manipulation projects would cause a 1- to 2-year loss in vegetation ground cover, resulting in increased erosion, loss of visual quality, and sedimentation. Visual quality would be degraded in VRM Class II areas. As vegetation became reestablished, vegetation production would increase and, within 20 years, benefits would exceed short-term losses.

Big game numbers would increase. In the fifth year, as livestock grazing was reduced, big game would begin to increase until the prior stable numbers for deer and objective numbers for elk would be realized within 20 years.

Livestock grazing would remain stable for the short term, then be reduced. In the long term, livestock grazing could begin to increase; however, it is expected that active preference would be reached on most allotments within 20 years.

IRREVERSIBLE OR IRRETRIEVABLE COMMITMENT OF RESOURCES

The temporary loss of grazing, visual quality, and soil immediately following vegetation manipulation is irretrievable but would result in no irreversible commitment of resources.

Any loss of income from grazing reductions and postponement of grazing during vegetation manipulation is irretrievable.

ENVIRONMENTAL CONSEQUENCES

TABLE 4-1

Alternative 1: Proposed Action - Multiple-Use Recommendation
Allotments on Which Initial Stocking Would Cause Overutilization

| Percent Utilization ^a | | Percent of Present Use of Grazing Capacity ^b | |
|----------------------------------|----------------------|---|-----------------------------|
| 51 to 60 | 61 or Greater | 101 to 110 | 111 or Greater |
| Antelope Powers (AMP) | Argyle Ridge | Asphalt Ridge | Brush Creek |
| Dry Fork | Big Wash (AMP) | Diamond Rim ^c | Bull Canyon |
| East Little Mtn. (AMP) | Cottonwood Sp. (AMP) | Paddy's Gap | Currant Canyon |
| Halfway Hollow | Five Mile | West Pelican Lake | Dinosaur Park |
| Holmes | Little Desert (AMP) | | Leers Canyon |
| Horseshoe Bend (AMP) | Parley Canyon | | Middleton-North |
| Ouray Road | | | Tullis |
| Shiner (AMP) | | | Red Mountain |
| Smelter Spring | | | Rich & Stetson ^c |
| Spring Creek | | | Sadlier |
| Wetlands (AMP) | | | South Tullis ^c |
| | | | West Little Mtn. |
| Total | Total | Total | Total |
| 11 Allotments | 6 Allotments | 4 Allotments | 11 Allotments |
| 109,214 acres | 84,322 acres | 10,159 acres | 58,189 acres |
| 21% of the area | 16% of the area | 2% of the area | 11% of the area |

Source: USDI, BLM, 1981.

^aProjected utilization based on utilization study data and proposed initial stocking.

^bNo utilization study data available; projected big game and livestock use of grazing capacity based on 1960 range survey data.

^cNo spring use on these allotments.

ENVIRONMENTAL CONSEQUENCES

TABLE 4-2

Alternative 1: Proposed Action - Multiple-Use Recommendation
Initial Change in Operator Size

| Ranch Operators' Size Category | No. of Operators ^a and Change From Average Use | | Number of AUMs | |
|-----------------------------------|---|------|-----------------------|------------------|
| | | | 3-Year Average Use | Initial Stocking |
| Small Cattle | 9 | Up | 1,890 | 1,981 |
| | 2 | Down | | |
| | 7 | Same | | |
| Medium Cattle | 7 | Up | 3,148 | 4,172 |
| | 2 | Down | | |
| | 5 | Same | | |
| Large Cattle | 8 | Up | 7,920 | 10,955 |
| | 1 | Down | | |
| | 5 | Same | | |
| Small Sheep | 5 | Up | 1,945 | 3,349 |
| | 0 | Down | | |
| | 4 | Same | | |
| Large Sheep | 9 | Up | 7,855 | 12,941 |
| | 0 | Down | | |
| | 0 | Same | | |

Source: USDI, BLM, 1982.

^aThere are 60 individual operators using the planning area; however, some of these operators are counted twice because they have both cattle and sheep.

ENVIRONMENTAL CONSEQUENCES

TABLE 4-3

Alternative 1: Proposed Action - Multiple-Use Recommendation
Initial Changes to Net Cash Income

| Operator Size Class | Small Sheep | Large Sheep | Small Cattle | Medium Cattle | Large Cattle |
|---|----------------|----------------|-----------------|------------------|-----------------|
| Present Net Cash Income | 15,130 | 115,303 | 4,645 | 19,523 | 90,785 |
| Percent Change From Present Net Cash Income | +20 | +20 | +1 | +6 | +5 |

Source: Appendix 6.

TABLE 4-4

Alternative 2: Livestock Forage Recommendation
Allotments on Which Initial Stocking Would Cause Overutilization

| Percent Utilization ^a | | Percent of Present Use of Grazing Capacity ^b | |
|----------------------------------|-------------------------|--|-----------------------------|
| 51 to 60 | 61 or Greater | 101 to 110 | 111 or Greater |
| Antelope Powers (AMP) | Argyle Ridge | Asphalt Ridge | Brush Creek |
| Big Wash (AMP) | Cottonwood Spring (AMP) | Diamond Rim ^c | Bull Canyon |
| Dry Fork | Five Mile | Paddy's Gap | Currant Canyon |
| East Little Mtn. (AMP) | Little Desert (AMP) | West Pelican Lake | Dinosaur Park |
| Halfway Hollow | Parley Canyon | | Leers Canyon |
| Holmes | | | Middleton-N. Tullis |
| Horseshoe Bend (AMP) | | | Red Mountain |
| Shiner (AMP) | | | Rich & Stetson ^c |
| Smelter Spring | | | Sadlier |
| Spring Creek | | | South Tullis ^c |
| Wetlands (AMP) | | | West Little Mtn. |
| Total | Total | Total | Total |
| 11 Allotments | 5 Allotments | 4 Allotments | 11 Allotments |
| 97,200 acres | 79,837 acres | 10,149 acres | 58,189 acres |
| 18% of the area | 15% of the area | 2% of the area | 11% of the area |

Source: USDI, BLM, 1981.

^aProjected utilization based on utilization study data and proposed initial stocking.

^bNo utilization study data available; projected big game and livestock use of grazing capacity based on 1960 range survey data.

^cNo spring use on these allotments.

ENVIRONMENTAL CONSEQUENCES

TABLE 4-5

Alternative 2: Livestock Forage Recommendation
Initial Change in Operator Size

| Ranch Operators' Size Category | No. of Operators ^a and Change From Average Use | | Number of AUMs | |
|-----------------------------------|---|----|-----------------------|------------------|
| | | | 3-Year Average Use | Initial Stocking |
| Small Cattle | Up | 10 | 1,890 | 2,040 |
| | Down | 2 | | |
| | Same | 6 | | |
| Medium Cattle | Up | 10 | 3,148 | 4,274 |
| | Down | 1 | | |
| | Same | 3 | | |
| Large Cattle | Up | 7 | 7,920 | 10,772 |
| | Down | 1 | | |
| | Same | 6 | | |
| Small Sheep | Up | 2 | 1,945 | 2,016 |
| | Down | 3 | | |
| | Same | 4 | | |
| Large Sheep | Up | 8 | 7,855 | 12,309 |
| | Down | 0 | | |
| | Same | 1 | | |

Source: USDI, BLM, 1982.

^aThere are 60 individual operators using the planning area; however, some of these operators are counted twice because they have both cattle and sheep.

TABLE 4-6

Alternative 2: Livestock Forage Recommendation
Initial Changes to Net Cash Income

| Operator Size Class | Small Sheep | Large Sheep | Small Cattle | Medium Cattle | Large Cattle |
|---|----------------|----------------|-----------------|------------------|-----------------|
| Present Net Cash Income | 15,130 | 115,303 | 4,645 | 19,523 | 90,785 |
| Percent Change From Present Net Cash Income | +1 | +17 | +2 | +6 | +5 |

Source: Appendix 6.

ENVIRONMENTAL CONSEQUENCES

TABLE 4-7

Alternative 3: No Action - Active Preference
Allotments on Which Initial Stocking Would Cause Overutilization

| Percent Utilization ^a | | Percent of Present Use of Grazing Capacity ^b | |
|----------------------------------|----------------------------|---|-----------------------------|
| 51 to 60 | 61 or Greater | 101 to 110 | 111 or Greater |
| Devils Canyon | Antelope Powers (AMP) | Asphalt Ridge | Brush Creek |
| Dry Fork | Argyle Ridge | Diamond Rim | Bull Canyon |
| East Little Mtn. (AMP) | Big Wash (AMP) | Paddy's Gap | Currant Canyon |
| Holmes | Cottonwood Spring (AMP) | West Pelican Lake | Dinosaur Park |
| Little Desert (AMP) | East Huber | | Leers Canyon |
| Shiner (AMP) | Eight Mile Flat | | Middleton-N. Tullis |
| Smelter Spring | Five Mile | | Red Mountain |
| Spring Creek | Halfway Hollow | | Rich & Stetson ^c |
| Twelve Mile | Horseshoe Bend (AMP) | | Sadlier |
| Wetlands (AMP) | Hungry Hollow-Pete's Ridge | | South Tullis ^c |
| | Ouray Road | | West Little Mtn. |
| | Parley Canyon | | |
| | Snyder Spring-Step Ant | | |
| | Wells Draw | | |
| Total | Total | Total | Total |
| 9 Allotments | 13 Allotments | 4 Allotments | 11 Allotments |
| 94,469 acres | 185,046 acres | 10,159 acres | 58,189 acres |
| 18% of the area | 35% of the area | 2% of the area | 11% of the area |

Source: USDI, BLM, 1981.

^aProjected utilization based on utilization study data and proposed initial stocking.

^bNo utilization study data available; projected big game and livestock use of grazing capacity based on 1960 range survey data.

^cNo spring use on these allotments.

ENVIRONMENTAL CONSEQUENCES

TABLE 4-8

Alternative 3: No Action - Active Preference
Changes in Operator Size

| Ranch Operators' Size Category | No. of Operators ^a and Change From Average Use | | Number of AUMs | |
|-----------------------------------|---|----|-----------------------|-------------------------|
| | | | 3-Year Average Use | Alternative Stocking |
| Small Cattle | Up | 10 | 1,890 | 2,013 |
| | Down | 2 | | |
| | Same | 6 | | |
| Medium Cattle | Up | 10 | 3,148 | 4,205 |
| | Down | 1 | | |
| | Same | 3 | | |
| Large Cattle | Up | 13 | 7,920 | 12,934 |
| | Down | 1 | | |
| | Same | 0 | | |
| Small Sheep | Up | 7 | 1,945 | 4,253 |
| | Down | 0 | | |
| | Same | 2 | | |
| Large Sheep | Up | 9 | 7,855 | 15,898 |
| | Down | 0 | | |
| | Same | 0 | | |

Source: USDI, BLM, 1982.

^aThere are 60 individual operators using the planning area; however, some of these operators are counted twice because they have both cattle and sheep.

TABLE 4-9

Alternative 3: No Action - Active Preference
Initial Changes to Net Cash Income

| Operator Size Class | Small Sheep | Large Sheep | Small Cattle | Medium Cattle | Large Cattle |
|---|----------------|----------------|-----------------|------------------|-----------------|
| Present Net Cash Income | 15,130 | 115,303 | 4,645 | 19,523 | 90,785 |
| Percent Change From Present Net Cash Income | +34 | +31 | +1 | +6 | +8 |

Source: USDI, BLM, 1982.

ENVIRONMENTAL CONSEQUENCES

TABLE 4-10

Alternative 4: No Change - Average Use
Allotments on Which Initial Stocking Would Cause Overutilization

| Percent Utilization ^a | | Percent of Present Use of Grazing Capacity ^b | |
|----------------------------------|----------------|---|---------------------|
| 51 to 60 | 61 or Greater | 101 to 110 | 111 or Greater |
| Holmes | Argyle Ridge | Diamond Rim | Brush Creek |
| Horseshoe Bend (AMP) | Five Mile | Paddy's Gap | Bull Canyon |
| Smelter Spring | Parley Canyon | | Currant Canyon |
| Spring Creek | | | Dinosaur Park |
| | | | Leers Canyon |
| | | | Middleton-N. Tullis |
| | | | Red Mountain |
| | | | Rich & Stetson |
| | | | South Tullis |
| | | | West Little Mtn. |
| Total | Total | Total | Total |
| 4 Allotments | 3 Allotments | 2 Allotments | 10 Allotments |
| 7,884 acres | 37,287 acres | 6,897 acres | 57,516 acres |
| 2% of the area | 7% of the area | 1% of the area | 11% of the area |

Source: USDI, BLM, 1981.

^aProjected utilization based on utilization study data and proposed initial stocking.

^bNo utilization study data available; projected big game and livestock use of grazing capacity based on 1960 range survey data.

TABLE 4-11

Alternative 4: No Action - Active Preference
Changes in Average Permit By Size and Class

| Operator Size Class | Small Sheep | Large Sheep | Small Cattle | Medium Cattle | Large Cattle |
|-----------------------|-------------|-------------|--------------|---------------|--------------|
| Present Permit (AUMs) | 532 | 1,766 | 118 | 280 | 924 |
| Percent Net Reduction | 54 | 51 | 6 | 25 | 39 |

Source: Appendix 6.

ENVIRONMENTAL CONSEQUENCES

TABLE 4-12

Alternative 5: Wildlife Habitat Recommendation
Hunter Days at Objective Big Game Stocking

| Species | Hunter Days | | |
|----------|-------------|-----------|----------|
| | Present | Projected | Increase |
| Deer | 4,320 | 6,448 | 2,428 |
| Elk | 1,315 | 4,385 | 3,070 |
| Antelope | 48 | 434 | 386 |

Source: USDI, BLM, 1981 and 1982.

TABLE 4-13

Alternative 5: Wildlife Habitat Recommendation
Net Cash Income and Capital Value Changes

| Operator Size Class | Small Sheep | Large Sheep | Small Cattle | Medium Cattle | Large Cattle |
|---|----------------|----------------|-----------------|------------------|-----------------|
| Present Net Cash Income | 15,130 | 115,303 | 4,645 | 19,523 | 90,785 |
| Percent Change From Net Cash Income | -3 | 0 | -5 | -4 | -2 |
| Present Change in Capital Value | -4 | 0 | -16 | -17 | -15 |

Source: Appendix 6.

TABLE 4-14

Alternative 5: Wildlife Habitat Recommendation
Estimates for Hunting Activity Expenditures

| Hunting Activity | 1978 Expenditures Per Hunter Day | Hunter Days | Total Expenditures |
|------------------|--|----------------|-----------------------|
| | | | |
| Deer | \$ 32.26 | 6,448 | \$208,000 |
| Elk | 120.61 | 4,385 | 229,000 |
| Antelope | 28.75 | 434 | 12,000 |
| Total | | 11,267 | \$449,000 |

Source: USDI, BLM, 1981.

CONSULTATION AND COORDINATION

INTERRELATIONSHIPS WITH
OTHER GROUPS, INDIVIDUALS
AND AGENCIES

CHAPTER 5

CONSULTATION AND COORDINATION

CONSULTATION AND
COORDINATION IN
PREPARATION OF THE DRAFT
ENVIRONMENTAL IMPACT

LOCAL
GOVERNMENT CONTACTS

Table 5.1 lists the individuals responsible for
preparation of the Draft Environmental Impact
Statement (EIS). Comments received from State agencies
were incorporated in preparation of the EIS.

PREPARATION OF THE DRAFT
ENVIRONMENTAL IMPACT
STATEMENT

Table 5.2 lists the individuals responsible for
preparing the Draft EIS, along with their title and
agency. The EIS was prepared by the Portland City
Environmental Impact Staff with assistance from
Vernal College Planning Team.

CHAPTER 5

CONSULTATION AND COORDINATION

INTERRELATIONSHIPS WITH OTHER GROUPS, INDIVIDUALS, AND AGENCIES

Because the public lands in the Ashley Creek Planning Area are interspersed with Federal, State, and private lands, management and use of adjacent lands has a strong influence on BLM-administered lands. Close coordination between land management agencies and private landowners is necessary to accomplish common goals and avoid resource use conflicts. Table 5-1 identifies interrelationships between the BLM rangeland management program and other groups, individuals, and agencies.

CONSULTATION AND COORDINATION IN PREPARATION OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

FEDERAL, STATE, AND LOCAL GOVERNMENT CONTACTS

Table 5-2 lists the contacts and actions completed in preparation of this Draft Environmental Impact Statement (EIS). Comments received from these agencies were considered in preparation of this EIS.

PREPARATION OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

Table 5-3 lists the individuals responsible for preparing this Draft EIS, along with their title and assignment. This EIS was prepared by the Richfield District Environmental Project Staff with assistance from the Vernal District Planning Team.

CONSULTATION AND COORDINATION

TABLE 5-1

Interrelationships of BLM Rangeland Management and Other Individuals or Agencies

| Agency/Group Relationship and Responsibility | Interrelationship |
|--|--|
| <u>FEDERAL AGENCIES</u> | |
| <u>Fish and Wildlife Service (FWS)</u> Responsible for protection of threatened and endangered species of plants and animals and their habitat. Administers predator control program. | FWS issues a biological opinion on the effects of livestock grazing on endangered species involved in the action. BLM authorizes predator control for the majority of the allotments in this planning area. The actual control work is done by the FWS on an on-going predator control program. |
| <u>Forest Service (USFS)</u> Administers higher elevation summer rangelands within the Ashley National Forest. | Livestock operators in the planning area depend upon adjoining Forest Service lands and coordination of seasons of use which allow for rounding out of livestock operations on USFS, BLM, and private rangelands. Joint wildlife studies that provide a basis for recommendations on big game harvest involve work with USFS, BLM, and others to coordinate management objectives. |
| <u>Soil Conservation Service (SCS)</u> Provides cooperative programs and technical assistance to livestock and ranch operators on private lands. Basically provides information and assistance to improve productivity and reduce soil loss by plans and practices of farm and ranch properties which may include BLM land. Provides monitoring of cost-sharing programs and cooperative land use planning. | Some allotments contain private lands on which the landowners have requested aid in the development of rangeland management plans. |
| <u>National Park Service</u> Administers grazing occurring in Dinosaur National Monument. | Some of the permittees have grazing licenses within Dinosaur National Monument. |

(continued)

CONSULTATION AND COORDINATION

TABLE 5-1 (concluded)

| Agency/Group Relationship and Responsibility | Interrelationship |
|--|---|
| <u>STATE OF UTAH</u> | |
| <u>Division of Lands</u> Responsible for leasing State-owned lands to private individuals to provide sustained income to the State. These lands may be grazed in connection with public lands if under exchange-of-use agreement with BLM. | The BLM and Division of Lands coordinate the leasing of State lands to those individuals who have BLM grazing permits in allotments containing State lands. The Division of Lands also assists in the planning of rangeland developments which affect both lands. |
| <u>Division of Wildlife Resources (UDWR)</u> Responsible for protection, management, and conservation of wildlife species. | In cooperation with UDWR, BLM collects and provides data for ongoing wildlife habitat management and land use planning. BLM coordinates with UDWR to develop plans for vegetation manipulation and rangeland improvement projects. |
| <u>Utah Board of Big Game Control</u> Establishes hunting seasons, dates, special and controlled hunts, bag limits, kind, sex, and number of animals to be harvested. | BLM provides data through a Federal representative on range condition and forage availability along with management plans for consideration by the Board. |
| <u>Utah State Historic Preservation Officer</u> Responsible for the cultural and historical values in the State. Values are protected by agreement between the two agencies. Protection and mitigation are also authorized under FLPMA, 1976, and the National Historic Preservation Act, 1966. | The State Historic Preservation Officer cooperates in the evaluation of expected impacts related to the proposed actions. |
| <u>LIVESTOCK OPERATORS</u> Livestock operators use BLM-administered rangelands for part of their yearlong operations. Private lands may be grazed in conjunction with public lands. | Implementation of the BLM grazing management program is carried out by the 60 operators permitted to graze their livestock on public lands. |

CONSULTATION AND COORDINATION

TABLE 5-2

Consultation With Federal and State Agencies

| Agency | Nature of Contact | Response | Action Taken |
|--|---|----------|--|
| <u>Federal</u> | | | |
| Soil Conser- vation Service | Requested information on soil loss. | Yes | Information provided. |
| Economics, Statistics & Cooperative Service | Cooperative agreement to provide ESCS with data about local ranching operations; in return they provided ranch budget analysis for BLM. | Yes | Information provided. |
| Forest Ser- vice | Requested input-output analysis of impacts to regional economy resulting from proposed action and alternatives. | Yes | Data presented. |
| Bureau of Reclamation | Requested information on the areas covered by USBR soil classification. | Yes | Data provided. |
| <u>State</u> | | | |
| Utah Division of Wildlife Resources | Requested information on fish and game numbers and habitat. | Yes | Information provided. |
| Utah State Historic Preservation Officer | Requested consultation regarding Section 106 of the National Historic Preservation Act: preparation of a Memorandum of Understanding. | Yes | Memorandum of Understanding prepared and signed. |

CONSULTATION AND COORDINATION

TABLE 5-3

List of Preparers

| EIS Team | Title | Assignment | Planning Team |
|---|----------------------------|----------------------------------|---|
| Lloyd Ferguson BS - Biological 24 Years | District Manager | Review and Approval | Same |
| Ralph Heft BS - Forestry 15 Years | Area Manager | Review and Approval | Same |
| Carl Thurgood BS - Range Management 20 Years | Project Manager | Organization and Support | Same |
| Alan Partridge BS - Botany 21 Years | Environmental Coordinator | Team Leader | David Moore BS - Forestry 15 years |
| David Hillier BA - Economics 5 Years | Technical Coordinator | Data Management and Economics | Ralph Brown MS - Fishery Biologist 10 Years |
| Roger Twitchell BS - Botany 5 years | Botanist | Vegetation and T&E Plants | Tim O'Brien BS - Range and Wildlife 5 Years |
| Richard Felthousen MS - Wildlife 7 Years | Wildlife Biologist | Animal Life and T&E Animals | David Zalunardo BS - Wildlife 5 Years |
| Dee Ritchie MS - Range, Forestry, Wildlife 22 Years | Range Conservationist | Livestock Grazing | Tim O'Brien BS - Range and Wildlife 5 Years |
| L. LaReil Chappell BS - Agronomy 14 Years | Soil Scientist | Soil and Water | Keith Chapman MS - Agronomy 25 Years |
| Wayne Kammerer MS - Forestry, EdM 14 Years | Outdoor Recreation Planner | Recreation and Visual Resources | Earl Smith BS Forestry 10 Years |
| Craig Harmon MS - Anthropology 11 Years | Archaeologist | Archaeology and Cultural History | Blaine Phillips MA - Archaeology 10 Years |

CONSULTATION AND COORDINATION

TABLE 5-3 (concluded)

| EIS Team | Title | Assignment | Planning Team |
|--|-----------------------------|---|---|
| Ferris Clegg MS - Biological Science 19 Years | Environmental Specialist | General Biology and Fisheries | Bob Ruesink MS - Fisheries 11 Years |
| Duane DePaepe MS - Geography 15 Years | Environmental Specialist | Social Attitudes and Physical Setting | Same |
| Elaine Torgerson AD - Business 6 Years | Writer-Editor | Editorial/graphics | |
| Shirley Taft Word Processor 11 Years | Clerical | Typing and Proofing | |

APPENDICES

APPENDIX 1

Background Data on Livestock Grazing Allotments

| Allotments | Land Ownership (Acres) | | | Present Use (AUMs) ^a | | | Prior Stable (AUMs) ^b | Objective Stocking (AUMs) ^c | | Active Preference (AUMs) ^d | | Average ^e Use (AUMs) | | Livestock Season of Use |
|----------------------------|------------------------|-------|---------|---------------------------------|----------|-----|----------------------------------|--|-----|---------------------------------------|--------|---------------------------------|--------|--|
| | BLM | State | Private | Deer | Antelope | Elk | Deer | Antelope | Elk | Sheep | Cattle | Sheep | Cattle | |
| Antelope Powers | 18,833 | 2,263 | 0 | 21 | 10 | 0 | 31 | 81 | 0 | 1,600 | -- | 797 | -- | 11/1-4/15 |
| Argyle Ridge | 9,844 | 1,869 | 9,150 | 198 | 0 | 100 | 330 | 0 | 607 | -- | 540 | -- | 380 | 5/16-11/15 |
| Asphalt Ridge | 804 | 7,043 | 277 | 5 | 0 | 0 | 5 | 0 | 0 | 54 | -- | 31 | -- | 2/22-4/20 |
| Big Wash | 4,485 | 762 | 0 | 39 | 8 | 33 | 57 | 69 | 126 | -- | 980 | -- | 378 | 11/1-4/15 |
| Brush Creek | 13,987 | 1,472 | 490 | 598 | 0 | 160 | 902 | 0 | 319 | -- | 884 | -- | 774 | 5/6-6/5 11/1-2/5 |
| Bull Canyon | 15,643 | 979 | 166 | 310 | 3 | 0 | 493 | 31 | 8 | -- | 1,000 | -- | 885 | 11/1-4/30 |
| Canal | 2,981 | 629 | 900 | 41 | 2 | 0 | 41 | 12 | 0 | -- | 224 | -- | 204 | 12/5-2/15 |
| Coalmine Basin | 4,297 | 577 | 825 | 196 | 0 | 0 | 335 | 0 | 96 | -- | 720 | -- | 693 | 4/15-5/27 |
| Cook | 7,188 | 3,928 | 307 | 186 | 0 | 0 | 206 | 19 | 0 | 486 | 14 | 140 | 14 | 1/10-4/10 S 5/15-7/14 C |
| Cottonwood Spr. | 13,487 | 2,613 | 221 | 382 | 0 | 176 | 515 | 31 | 255 | 1,239 | -- | 442 | -- | 4/21-5/31 |
| Current Canyon | 6,395 | 448 | 191 | 131 | 0 | 11 | 208 | 0 | 179 | -- | 240 | -- | 240 | 11/1-4/30 |
| Deep Creek | 226 | 116 | 586 | 21 | 0 | 3 | 62 | 0 | 20 | -- | 16 | -- | 16 | 5/16-10/31 |
| Devils Canyon | 18,388 | 2,596 | 530 | 343 | 3 | 0 | 457 | 30 | 61 | -- | 1,368 | -- | 739 | 11/1-4/30 |
| Diamond Rim | 2,814 | 0 | 0 | 66 | 0 | 128 | 134 | 0 | 399 | 120 | -- | 120 | -- | 11/1-12/15 |
| Dinosaur Park | 1,312 | 1,220 | 362 | 96 | 0 | 0 | 129 | 0 | 96 | -- | 103 | -- | 82 | 4/1-4/30 11/1-1/4 |
| Donkey Flat | 5,286 | 567 | 20 | 773 | 0 | 176 | 1,009 | 0 | 207 | -- | 402 | -- | 379 | 5/1-5/31 10/16-11/2 11/15-12/5 |
| Dry Fork | 5,390 | 1,233 | 1,084 | 494 | 0 | 64 | 628 | 0 | 112 | -- | 470 | -- | 259 | 6/1-10/30 |
| East Huber | 16,181 | 2,123 | 102 | 82 | 15 | 0 | 82 | 56 | 0 | 1,178 | -- | 353 | -- | 11/1-4/30 |
| East Little Mountain | 2,279 | 250 | 994 | 92 | 0 | 32 | 309 | 0 | 160 | -- | 335 | -- | 276 | 5/16-10/15 |
| Eight Mile Flat | 11,677 | 613 | 152 | 14 | 8 | 0 | 21 | 77 | 0 | 1,063 | -- | 311 | -- | 11/1-4/15 |
| Five Mile | 13,071 | 1,946 | 597 | 74 | 2 | 32 | 98 | 130 | 126 | -- | 1,056 | -- | 856 | 11/1-4/30 |
| Flue Knoll-Twin Knolls | 10,047 | 1,638 | 0 | 34 | 8 | 0 | 48 | 61 | 0 | 702 | -- | 538 | -- | 11/1-4/15 |
| Green River Bottoms | 5,848 | 404 | 233 | 52 | 2 | 0 | 83 | 25 | 0 | -- | 330 | -- | 329 | 5/16-10/31 |
| Hacking | 634 | 0 | 0 | 30 | 0 | 9 | 51 | 0 | 32 | 38 | 38 | 31 | 32 | 5/16-5/29 S 9/16-9/29 S 5/16-6/15 C 10/16-11/15 C |
| Halfway Hollow | 3,484 | 666 | 386 | 5 | 4 | 0 | 10 | 25 | 0 | 231 | -- | 89 | -- | 2/22-4/20 |
| Holmes | 512 | 1,106 | 40 | 82 | 0 | 0 | 82 | 0 | 0 | 37 | -- | 32 | -- | 1/1-3/27 |
| Horseshoe Bend | 2,585 | 436 | 345 | 103 | 0 | 0 | 103 | 6 | 0 | -- | 145 | -- | 87 | 5/1-10/15 |
| Hungry Hollow-Pete's Ridge | 37,698 | 4,620 | 0 | 31 | 16 | 0 | 50 | 131 | 0 | -- | 2,000 | -- | 670 | 11/1-4/15 |
| Island Park | 6,659 | 380 | 159 | 381 | 0 | 0 | 484 | 25 | 160 | -- | 35 | -- | 33 | 11/1-4/30 |
| Johnson | 744 | 160 | 340 | 41 | 0 | 9 | 62 | 0 | 32 | -- | 86 | -- | 79 | 5/20-6/19 11/1-11/30 |
| Leers Canyon | 8,985 | 774 | 952 | 199 | 0 | 18 | 290 | 0 | 301 | -- | 602 | -- | 463 | 4/16-6/15 |
| Little Desert | 29,069 | 3,479 | 0 | 41 | 29 | 0 | 83 | 200 | 0 | 1,645 | -- | 1,542 | -- | 11/1-4/15 |
| McFarley Flat | 6,140 | 20 | 80 | 186 | 0 | 0 | 361 | 0 | 0 | -- | 360 | -- | 321 | 4/1-4/30 11/1-1/31 |
| Middleton-North Tullis | 1,392 | 0 | 135 | 21 | 0 | 0 | 26 | 0 | 0 | -- | 131 | -- | 110 | 4/1-4/30 11/1-1/31 |
| Mosby | 2,319 | 231 | 0 | 196 | 0 | 16 | 284 | 0 | 128 | -- | 235 | -- | 224 | 5/15-6/12 10/15-11/30 |
| Ouray Road | 16,499 | 1,351 | 846 | 62 | 16 | 0 | 82 | 62 | 0 | -- | 857 | -- | 476 | 5/1-7/31 11/1-2/28 |

APPENDIX 1 (concluded)

| Allotments | Land Ownership (Acres) | | | Present Use (AUMs) ^a | | | Prior Stable (AUMs) ^b | Objective Stocking (AUMs) ^c | | Active Preference (AUMs) ^d | | Average ^e Use (AUMs) | | Livestock Season of Use |
|------------------------|------------------------|--------|---------|---------------------------------|----------|-------|----------------------------------|--|-------|---------------------------------------|--------|---------------------------------|--------|--|
| | BLM | State | Private | Deer | Antelope | Elk | Deer | Antelope | Elk | Sheep | Cattle | Sheep | Cattle | |
| Ouray Valley | 547 | 0 | 160 | 13 | 0 | 0 | 21 | 12 | 0 | -- | 30 | -- | 40 | 6/1-9/30 |
| Paddy's Gap | 4,083 | 407 | 0 | 149 | 0 | 0 | 310 | 0 | 16 | 70 | 221 | 69 | 203 | 4/12-4/30 C 12/6-1/5 C 12/15-1/25 S |
| Palmer | 1,155 | 1,615 | 201 | 10 | 0 | 0 | 44 | 0 | 0 | 92 | -- | 91 | -- | 1/1-3/27 |
| Parley Canyon | 14,366 | 1,227 | 971 | 266 | 0 | 18 | 404 | 0 | 355 | -- | 465 | -- | 463 | 4/1-6/15 |
| Pelican Lake | 5,909 | 696 | 393 | 56 | 6 | 0 | 93 | 31 | 0 | -- | 544 | -- | 170 | 11/25-5/3 |
| Perry | 1,866 | 968 | 1,450 | 77 | 0 | 32 | 206 | 0 | 64 | -- | 96 | -- | 79 | 5/1-5/31 10/1-10/31 |
| Powell (Ashley Creek) | 1,419 | 0 | 0 | 31 | 0 | 0 | 52 | 0 | 0 | 140 | -- | 106 | -- | 11/6-5/5 |
| Powell (Twelve Mile) | 6,370 | 1,280 | 180 | 31 | 0 | 0 | 82 | 12 | 0 | 297 | -- | 86 | -- | 1/10-4/10 |
| Red Mountain | 7,553 | 1,042 | 1,535 | 567 | 0 | 383 | 774 | 0 | 670 | -- | 300 | -- | 190 | 5/5-6/4 11/1-12/31 |
| Rich and Stetson | 542 | 0 | 0 | 62 | 10 | 0 | 10 | 0 | 0 | 65 | -- | 62 | -- | 11/1-12/19 |
| S. J. Hatch | 20,406 | 2,094 | 0 | 361 | 0 | 96 | 747 | 0 | 239 | 1,533 | -- | 1,032 | -- | 11/6-5/5 |
| Sadlier | 683 | 0 | 0 | 31 | 0 | 0 | 41 | 0 | 0 | 54 | 35 | -- | 35 | 4/16-5/31 S 11/16-12/31 S 5/1-5/15 C |
| Shindy | 3,077 | 400 | 0 | 155 | 0 | 0 | 258 | 0 | 96 | -- | 68 | -- | 93 | 5/1-5/29 |
| Shiner | 39,247 | 3,370 | 1,691 | 361 | 0 | 48 | 876 | 124 | 160 | 3,781 | -- | 1,622 | -- | 11/1-5/20 |
| Smelter Spring | 471 | 80 | 280 | 21 | 0 | 48 | 31 | 0 | 48 | -- | 24 | -- | 23 | 5/16-10/31 |
| Snyder Spring-Step Ant | 34,020 | 4,282 | 3,583 | 14 | 10 | 0 | 21 | 79 | 0 | 3,950 | -- | 1,197 | -- | 11/1-4/15 |
| South Tullis | 764 | 0 | 240 | 21 | 0 | 0 | 41 | 0 | 0 | 54 | -- | 53 | -- | 11/1-12/31 |
| Spring Creek | 4,316 | 1,871 | 1,668 | 284 | 0 | 0 | 381 | 0 | 160 | -- | 196 | -- | 190 | 5/1-5/31 11/1-12/31 |
| Sunshine Bench | 3,289 | 642 | 0 | 25 | 0 | 0 | 41 | 0 | 0 | -- | 207 | -- | 142 | 4/1-4/30 11/1-1/30 |
| Twelve Mile | 8,268 | 80 | 0 | 21 | 7 | 0 | 21 | 31 | 0 | 686 | -- | 113 | -- | 2/1-4/20 |
| Water Canyon 1 | 2,411 | 884 | 1,592 | 55 | 0 | 100 | 76 | 0 | 216 | -- | 153 | -- | 153 | 5/16-9/30 |
| Water Canyon 2 | 4,960 | 778 | 964 | 57 | 3 | 0 | 75 | 16 | 2 | -- | 138 | -- | 133 | 11/1-4/30 |
| Wells Draw | 26,514 | 3,168 | 125 | 19 | 23 | 0 | 25 | 173 | 0 | 2,276 | -- | 1,384 | -- | 11/1-4/15 |
| West Huber | 3,986 | 1,203 | 2,217 | 62 | 4 | 0 | 62 | 25 | 0 | -- | 402 | -- | 254 | 5/1-7/31 11/1-3/19 |
| West Little Mountain | 943 | 270 | 1,725 | 51 | 0 | 19 | 144 | 0 | 288 | -- | 124 | -- | 112 | 5/16-6/15 10/10-12/4 |
| West Pelican Lake | 2,448 | 0 | 0 | 21 | 2 | 0 | 21 | 19 | 0 | -- | 251 | -- | 219 | 11/1-4/30 |
| Wetlands | 15,598 | 2,370 | 322 | 72 | 6 | 0 | 103 | 78 | 0 | -- | 1,043 | -- | 776 | 5/16-2/15 |
| Willow Spring | 1,046 | 0 | 500 | 51 | 0 | 13 | 82 | 0 | 32 | -- | 85 | -- | 82 | 5/16-10/31 |
| Young | 4,534 | 640 | 730 | 25 | 0 | 0 | 41 | 0 | 0 | -- | 359 | -- | 151 | 11/25-5/5 |
| Totals | 527,974 | 77,879 | 40,997 | 8,543 | 187 | 1,724 | 13,231 | 1,671 | 5,770 | 21,391 | 17,912 | 10,101 | 12,647 | |

^aPresent Use (AUMs) for deer, antelope, and elk is an estimate developed by UOWR and BLM.^bPrior Stable (AUMs) for deer is the desired stocking determined by UOWR.^cObjective Stocking (AUMs) for antelope and elk is the desired stocking determined by UOWR and BLM and includes: Bull Canyon - bighorn sheep, 49 AUMs; and Devils Canyon - bighorn sheep, 46 AUMs.^dActive Preference (AUMs) is that part of preference which is not suspended non-use. The active preference can be licensed by the livestock operator.^eAverage Use (AUMs) is the average use for 3 representative years during the last 8 years.

APPENDIX 2

Evolution of Alternative 1 Through the Management Framework Plan

This appendix explains the development process for the proposed action. See Chapter 1, for a more detailed description of the planning process. The following explains the columns found in the next table.

Column 1. MFP Step 1 Rangeland Management Recommendation

These recommendations were developed by BLM range conservationists as proposed actions for livestock management and constitute Alternative 2.

Column 2. Impact Identification

During interdisciplinary team meeting, conflicts between other resources and the MFP 1 Rangeland Management Recommendation were identified.

Column 3. MFP Step 2 Multiple-Use Rangeland Recommendation

These recommendations were proposed by the Area Manager to resolve conflicts identified in Column 2. These recommendations became the proposed action - Alternative 1.

Column 4. Trade-Off

This column explains trade-offs to resources that would result from implementing the proposed action.

APPENDIX 2

Evolution of Alternative 1 Through Management Framework Plan

MFP Step 1 Rangeland Management Recommendation

Impact Identification

Rangeland Management Objective 1

Active preference would be reduced to bring livestock grazing in harmony with the forage resource on the following 15 allotments : Big Wash, Bull Canyon, East Huber, Eight Mile Flat, Halfway Hollow, Holmes, Horseshoe Bend, McFarley Flat, Middleton-North Tullis, Ouray Road, Rich and Stetson, South Tullis, Twelve Mile, West Huber, and Young.

Rationale:

The 1960 range survey and/or current monitoring studies show forage is not available to support active preference on these 15 allotments. URA data indicate that an increase in grazing capacity is not possible through vegetation manipulation or management.

Recommendation 1.1

Active preference would be reduced to grazing capacity on five allotments (totaling 23,275 Federal acres) as shown below. Reductions would be completed over the next 3 years, with seasons of use remaining the same. After reductions were made, a 5-year monitoring program would be initiated to determine correctness of the new stocking.

| Allotment | Average Use (AUMs) | Active Preference (AUMs) | Present Grazing Capacity (AUMs) ^a |
|------------------|--------------------|--------------------------|--|
| Big Wash | 378 | 980 | 700 |
| Eight Mile Flat | 311 | 1,063 | 547 |
| Horseshoe Bend | 97 | 145 | 99 |
| Rich and Stetson | 62 | 65 | 56 |
| West Huber | 254 | 402 | 374 |
| Total | 1,102 | 2,655 | 1,776 |

^aDerived from 1960 range survey and current monitoring studies.

Recommendation 1.2

A 5-year monitoring program would be initiated to determine grazing capacity on the allotments (totaling 73,417 Federal acres) shown below. Average use would not be exceeded during the monitoring period. Seasons of use would remain the same. After the monitoring period, active preference would be determined.

| Allotment | Average Use (AUMs) | Active Preference (AUMs) | Present Grazing Capacity (AUMs) ^a | Present Grazing Capacity (AUMs) ^b |
|------------------------|--------------------|--------------------------|--|--|
| Bull Canyon | 885 | 1,000 | 555 | -- |
| East Huber | 353 | 1,178 | 1,168 | 846 |
| Halfway Hollow | 89 | 231 | 225 | 180 |
| Holmes | 32 | 37 | 74 | 24 |
| McFarley Flat | 321 | 360 | 361 | 289 |
| Middleton-North Tullis | 110 | 131 | 93 | -- |
| Ouray Road | 476 | 857 | 1,321 | 655 |
| South Tullis | 53 | 54 | 43 | -- |
| Twelve Mile | 113 | 686 | 602 | 601 |
| Young | 151 | 359 | 359 | -- |
| Total | 2,432 | 4,893 | 4,801 | -- |

^aDerived from 1960 range survey.

^bDerived from current actual use and vegetation utilization (monitoring studies).

Water Resources - Reducing active preference would compliment the watershed recommendation to maintain ground cover at 30 percent and reduce soil erosion on soils with a surface factor (SSF) of above 45 points.

Wildlife - Reducing active preference would ensure additional forage for recommended big game AUMs.

Recreation - Reducing active preference on Horseshoe Bend Allotment would compliment the recreation recommendation to develop a campground on this allotment.

Socioeconomic - Reducing active preference on these allotments could cause economic loss to the permittees. The reduction on Horseshoe Bend would probably make it uneconomical for cattle grazing.

Cultural - Reducing active preference would benefit cultural resources by not increasing the trampling effect, which has been shown to be a major factor in the breakage and/or alteration of artifacts.

Socioeconomic - There could be economic loss to permittees if, after the 5-year monitoring program, active preference were reduced.

APPENDIX 2 (continued)

MFP Step 2 Multiple Use Rangeland Recommendation

Trade-Off

Livestock grazing would be allowed at the present grazing capacity (1,776 AUMs) at the beginning of a 5-year monitoring period. Seasons of use would remain the same. Actual use, vegetation utilization and trend data would be gathered for 2 years. At the beginning of the third grazing season, needed adjustments would be made to bring livestock grazing to within grazing capacity. Studies would be continued during the third and fourth years. Based on these studies, final adjustments would be made (if needed) in the fifth year to bring vegetation utilization to the proper 40 to 60 percent.

Rationale:

Available data show that these allotments are over-obligated. Vegetation manipulation is not possible to increase livestock forage. In all but one allotment (Rich and Stetson) actual use has been below the present grazing capacity. Ranchers want to study the present grazing capacity for several years to be sure it is correct before making any reductions. Because grazing will continue at or below the indicated grazing capacity during the study period, there will be no damage to range resources.

Economic loss would occur from the loss of 6 AUMs of actual use on the Rich and Stetson Allotment. Loss of active preference (879 AUMs) would occur on the four remaining allotments.

A 5-year monitoring program would be initiated to determine grazing capacity. Maximum allowable use during the initial stages of the monitoring period would not exceed that stated on the following table. Season of use would remain the same. Actual use, vegetation utilization, and trend data would be gathered for 2 years. At the beginning of the third grazing season, needed adjustments would be made to bring livestock grazing to within proper grazing capacity. Studies would be continued during the third and fourth years. Based on these studies, final adjustments in livestock grazing would be made (if needed) in the fifth year to bring vegetation utilization to the proper 40 to 60 percent.

A livestock reduction to the average use would be delayed on four allotments. Livestock operators would be permitted to use 1,252 AUMs more during the 5-year monitoring period.

| Allotment | Maximum Allowable Use (AUMs) | Data Establishing Proposed Stocking |
|------------------------|------------------------------|-------------------------------------|
| Bull Canyon | 885 | Average Use |
| East Huber | 846 | Studies |
| Halfway Hollow | 180 | Studies |
| Holmes | 32 | Average Use |
| McFarley Flat | 321 | Average Use |
| Middleton-North Tullis | 110 | Average Use |
| Ouray Road | 665 | Studies |
| South Tullis | 53 | Average Use |
| Twelve Mile | 602 | Studies and Survey |
| Young | 151 | Average Use |
| Total | 3,835 | |

APPENDIX 2 (continued)

MFP Step 1 Rangeland Management Recommendation

Impact Identification

Rangeland Management Objective 2

Available livestock forage would be increased through allotment management plan (AMP) development and vegetation manipulation to bring grazing capacity up to active preference on the following allotments: Antelope Powers, Argyle Ridge, Currant Canyon, Devils Canyon, Five Mile, Leers Canyon, Parley Canyon, Shiner, Synder Spring-Step Ant, Spring Creek, Wells Draw.

Rationale:

BLM Manual 1603.12(G)(3)(b) states that the BLM will provide livestock forage to help meet the needs of the nation. The Ashley Creek and Duchesne Planning Area Analyses (PAAs) indicate that there will be a 22-percent increase in the demand for red meat between the years 1982 and 2000. BLM Manual 1603.12(G)(4)(e) also states that AMPs will be developed on allotments prior to initiating any vegetation manipulation.

Recommendation 2.1

AMPs would be implemented on seven allotments (totaling 120,519 Federal acres) listed in the table below. Also, necessary vegetation manipulation would be performed to obtain or surpass active preference. The permittees would be allowed to graze their livestock at present average use until AMPs were fully implemented and vegetation manipulation completed. Seasons of use would remain the same. An evaluation would then be made to determine if increases in livestock grazing could be made.

| Allotments | Average Use (AUMs) | Active Preference (AUMs) | Present Grazing Capacity (AUMs) ^a | Present Grazing Capacity (AUM) ^b |
|------------------------|--------------------|--------------------------|--|---|
| Argyle Ridge | 380 | 540 | 500 | 183 |
| Devils Canyon | 739 | 1,368 | 634 | 989 |
| Five Mile | 856 | 1,056 | 578 | 568 |
| Parley Canyon | 463 | 465 | 263 | 275 |
| Synder Spring-Step Ant | 1,197 | 3,950 | 3,465 | 1,814 |
| Spring Creek | 190 | 196 | 182 | 167 |
| Wells Draw | 1,384 | 2,276 | 2,144 | 1,641 |
| Total | 5,203 | 9,851 | 7,766 | 5,637 |

^aDerived from the 1960 range survey.

^bDerived from current actual use and vegetation utilization (monitoring studies).

Watershed - Vegetation manipulation would compliment watershed recommendations to increase ground cover.

Wildlife - Vegetation manipulation and livestock increases on Spring Creek would conflict with the wildlife recommendation to allow no change until the Habitat Management Plan (HMP) is developed for this area.

Recreation - Vegetation manipulation would conflict with visual resource management (VRM) Class II objectives.

Cultural Resources - Vegetation manipulation in the Spring Creek Allotment would conflict with the proposed Red Mountain Area of Critical Environmental Concern (ACEC).

Lands - Expenditures to improve rangelands on Spring Creek Allotment would conflict with the recommendation to dispose of public lands.

Forest Products - Vegetation manipulation would compliment the forest products recommendation to permit the harvest of dead-and-down firewood.

APPENDIX 2 (continued)

MFP Step 2 Multiple Use Rangeland Recommendation

Trade-Off

Rationale:

Actual use and vegetation utilization studies are inconclusive. Three allotments have no studies, five allotments have 1-year studies, and one allotment has a 2-year study. More information is needed before grazing capacity can be determined. Five allotments have had average use below active preference and the range survey capacity. Maintaining this low use for the 5-year study period would be unnecessarily restrictive. More livestock grazing could be made and still protect the range resources during the study period. This would also give the livestock operators more flexibility with their operations. No opportunity exists for vegetation manipulation to bring grazing capacity up to active preference.

AMPs would be implemented on the seven allotments listed below. As part of the AMP development, a 5-year monitoring program would be initiated to determine grazing capacity. Maximum allowable use during the initial stages of the monitoring period would not exceed that shown on the following table. Season of use would remain the same. Actual use, vegetation utilization and trend data would be gathered for 2 years. At the beginning of the third grazing season, needed adjustments would be made to bring livestock grazing to within grazing capacity. Studies would be continued during the third and fourth years. As a result of these studies, final adjustments would be made in livestock grazing in the fifth year (if needed) to bring vegetation utilization to the proper 40 to 60 percent.

| Allotment | Maximum Allowable Use (AUMs) | Data Establishing Proposed Stocking |
|------------------------|------------------------------|-------------------------------------|
| Argyle Ridge | 380 | Average Use |
| Devils Canyon | 739 | Average Use |
| Five Mile | 856 | Average Use |
| Parley Canyon | 463 | Average Use |
| Snyder Spring-Step Ant | 1,814 | Studies |
| Spring Creek | 190 | Average Use |
| Wells Draw | 1,641 | Studies |
| | 6,083 | |

Necessary vegetation manipulation would be performed on these allotments to obtain or surpass active preference while meeting objectives for VRM classes and the proposed Red Mountain ACEC. Forage produced above active preference in the Spring Creek Allotment would be reserved for big game; however, it could be used by livestock on a temporary, non-renewable basis until needed by big game.

Allowing livestock grazing at the monitored capacity would make 875 additional AUMs available on Snyder Spring-Step Ant and Wells Draw Allotments.

Reducing the amount of area proposed for vegetation manipulation (i.e., areas not meeting VRM objectives and the proposed Red Mountain ACEC) would reduce forage produced.

Reserving forage for big game would result in a loss of opportunity to use forage in the livestock industry.

APPENDIX 2 (continued)

MFP Step 1 Rangeland Management Recommendation

Impact Identification

Recommendation 2.2

AMPs would be implemented by 1985 on two allotments (totaling 15,380 Federal acres) listed below. Also, vegetation manipulation would be performed to bring the grazing capacity on these allotments as close to active preference as possible. The permittees would be allowed to graze their livestock at average use until AMPs were fully implemented and vegetation manipulation completed. Season of use would remain the same. An evaluation would then be made to determine if livestock reductions were necessary.

| Allotments | Average Use (AUMs) | Active Preference (AUMs) | Present Grazing Capacity (AUMs) ^a |
|----------------|--------------------|--------------------------|--|
| Currant Canyon | 240 | 240 | 122 |
| Leers Canyon | 463 | 602 | 353 |
| Total | 703 | 842 | 475 |

^aDerived from the 1960 range survey.

Watershed - Vegetation manipulation would compliment the watershed recommendation to increase ground cover.

Recreation - Vegetation manipulation would conflict with VRM Class II objectives.

Forest Products - Vegetation manipulation would compliment the forest products recommendation to permit the harvest of dead-and-down firewood.

Recommendation 2.3

The present AMPs would be continued on the two allotments (totaling 58,080 Federal acres) shown in the following table. Also, needed vegetation manipulation would be performed to obtain or surpass active preference. The permittees would be allowed to graze their livestock at the present grazing capacity. Season of use would remain the same. After vegetation manipulation had been completed, an evaluation would be made to determine if active preference could again be met. If additional AUMs were being produced at this time, a determination would be made as to whether this forage would be allocated to livestock or big game.

| Allotment | Average Use (AUMs) | Active Preference (AUMs) | Present Grazing Capacity (AUMs) ^a |
|-----------------|--------------------|--------------------------|--|
| Antelope Powers | 797 | 1,600 | 1,475 |
| Shiner | 1,622 | 3,781 | 3,166 |
| Total | 2,419 | 5,381 | 4,641 |

^aDerived from current actual use and vegetation utilization (monitoring studies).

Wildlife - Vegetation manipulation would compliment the wildlife recommendation to convert dominant pinyon-juniper types to a dominant browse-grass type. Vegetation manipulation and livestock increases would conflict with the recommendation to allow no change until an HMP is developed.

Recreation - Vegetation manipulation would conflict with the recommendation to avoid any man-made disturbance that would alter the primitive experience opportunity to the Six Mile Draw area in the Shiner Allotment.

Forest Products - Vegetation manipulation would compliment the recommendation to permit the harvest of dead-and-down firewood.

MFP Step 2 Multiple Use Rangeland Recommendation

Trade-Off

Rationale:

Preliminary information, although somewhat inconclusive, shows these allotments are over-obligated. There is potential to increase forage through vegetation manipulation. This recommendation would bring livestock grazing in line with grazing capacity by the end of a 5-year study, while minimizing impacts on permittees by allowing them to graze their livestock at average use on five allotments. The studies on the two remaining allotments indicate that forage production is above average use and grazing would be allowed at the grazing capacity during the 5-year study period.

Funds for vegetation manipulation are dependent on congressional appropriation; therefore, funds for increased vegetation manipulation cannot be guaranteed.

The Spring Creek Allotment is in a crucial winter range for big game. Big game numbers are projected to increase over the next few years and more forage would be needed on the winter range.

AMPs would be implemented on these allotments. Permittees would be allowed to graze at average use during the initial stages of a 5-year monitoring program. Season of use would remain the same. Actual use, vegetation utilization and trend data would be gathered for 2 years. At the beginning of the third grazing season, needed adjustments would be made to bring livestock grazing to within grazing capacity. Studies would be continued during the third and fourth years; in the fifth year final adjustments would be made in livestock grazing (if needed) to bring vegetation utilization to the proper 40 to 60 percent.

Vegetation manipulation would be performed to bring grazing capacity on these allotments as close to active preference as possible without violating VRM objectives.

Rationale:

The 1960 range survey shows that these allotments are substantially over-obligated. No studies have since been performed on these allotments to verify the survey, however. Because livestock grazing would be allowed at average use, the impact to ranchers would be minimized during the monitoring program.

Forage would not be increased on areas in conflict with VRM Class II objectives.

The present AMPs would continue on these two allotments. Permittees would be allowed to graze at average use during the initial stages of a 5-year monitoring program. Season of use would remain the same. Actual use, utilization and trend data would be gathered for 2 years. At the beginning of the third grazing season, needed adjustments would be made to bring livestock grazing to within proper use limits. Studies would be continued during the third and fourth years. As a result of these studies, in the fifth year final adjustments in livestock grazing would be made (if needed) to bring vegetation utilization to the proper 40 to 60 percent.

Needed vegetation manipulation would be performed to obtain or surpass active preference while meeting requirements for the Six Mile Draw primitive area in the Shiner Allotment. Increased forage above active preference could be used on a temporary non-renewable basis by livestock until needed by big game.

Rationale:

Five years of actual use and vegetation utilization studies were collected on these allotments to indicate grazing capacity. Since the 5-year period covered two severe drought years, permittees do not feel that the present grazing capacity is accurate. If livestock grazing were kept at or below the present grazing capacity for 5 years, range resources would be protected.

The monitoring period would begin the second year instead of the year following vegetation manipulation. AUMs derived from vegetation manipulation would be allocated to big game rather than livestock, if needed by big game increases.

Vegetation manipulation would not be performed on areas affected by the Six Mile Draw primitive area in the Shiner Allotment. Forage production would continue to be less than potentially available.

APPENDIX 2 (continued)

MFP Step 1 Rangeland Management Recommendation

Impact Identification

Rangeland Management Objective 3

Forage production would be maintained on the following allotments to sustain average use: Asphalt Ridge, Canal, Cook, Dinosaur Park, Flue Knoll-Twin Knolls; Palmer, Pelican Lake, Powell (Ashley Creek), Powell (Twelve Mile), Sadlier, Sunshine Bench, and West Pelican Lake.

Rationale:

These 12 allotments are under a general season-long grazing system. Data show that active preference is being met and that there is no opportunity for additional AUMs to be developed through management or vegetation manipulation. Data also show that the majority of these allotments are in a mid-seral ecological stage (mix of desirable browse and grass species).

Recommendation 3-1

Livestock grazing would be allowed to continue at active preference on the allotments (totaling 43,605 acres) listed in the table below. Season of use would remain the same. Also, vegetation utilization, actual use, and trend studies would be conducted on these allotments to verify grazing capacity. Adjustments would be made to meet grazing capacity if studies indicated the need.

None.

| Allotment | Average Use (AUMs) | Active Preference (AUMs) | Present Grazing Capacity (AUMs) ^a |
|------------------------|--------------------|--------------------------|--|
| Asphalt Ridge | 31 | 54 | 54 |
| Canal | 204 | 224 | 224 |
| Cook | 154 | 500 | 458 |
| Dinosaur Park | 82 | 103 | 97 |
| Flue Knoll-Twin Knolls | 538 | 702 | 822 |
| Palmer | 91 | 92 | 91 |
| Pelican Lake | 170 | 544 | 697 |
| Powell (Ashley Creek) | 106 | 140 | 195 |
| Powell (Twelve Mile) | 86 | 297 | 327 |
| Sadlier | 35 | 89 | 81 |
| Sunshine Bench | 142 | 207 | 226 |
| West Pelican Lake | 219 | 251 | 251 |
| Total | 1,858 | 3,203 | 3,523 |

^aDerived from the 1960 range survey.

MFP Step 2 Multiple Use Rangeland Recommendation

Trade-Off

The Shiner Allotment is crucial winter range for big game. Big game numbers are projected to increase over the next few years and more forage will be needed in the winter range.

The Six Mile Draw primitive area is the only primitive area left in the Vernal area. Although it is not high enough quality to qualify as wilderness, it merits protection.

The pinyon-junipers in the Antelope Powers Allotment are used extensively by sheep for shelter during cold winter periods, and the pinyon-junipers retard snow melting and thus provide a water source for sheep. Thus, no pinyon-junipers should be removed in the allotment.

Accept MFP Step 1 Rangeland Management Recommendation.

Rationale:

No conflicts were identified.

None.

APPENDIX 2 (continued)

MFP Step 1 Rangeland Management Recommendation

Impact Identification

Rangeland Management Objective 4

Forage production would be maximized on the following allotments: Brush Creek, Coalmine Basin, Cottonwood Spring, Deep Creek, Diamond Rim, Donkey Flat, Dry Fork, East Little Mountain, Green River Bottoms, Hacking, Hungry Hollow-Pete's Ridge, Island Park, Johnson, Little Desert, Mosby, Ouray Valley, Paddy's Gap, Perry, Red Mountain, Shindy, S. J. Hatch, Smelter Spring, Water Canyon 1, Water Canyon 2, West Little Mountain, Wetlands, and Willow Spring.

Rationale:

BLM Manual 1603.12(G)(3)(b) states that the BLM will provide livestock forage to help meet the needs of the nation. The Ashley Creek and Duchesne PAAs identify that there will be a 22-percent increase in the demand for red meat between the years 1982 to 2000.

Recommendation 4.1

AMPs would be implemented on the 18 allotments (totaling 114,210 Federal acres) listed below by 1988. Necessary vegetation manipulation would be performed on these allotments to maximize grazing capacity. The permittees would be allowed to graze their livestock at active preference until AMPs were fully implemented and vegetation manipulation was complete. Seasons of use would remain the same. An evaluation would then be made at the end of the first grazing cycle to determine the new grazing capacity.

| Allotment | Average Use (AUMs) | Active Preference (AUMs) | Present Grazing Capacity (AUMs) ^a |
|----------------------------|--------------------|--------------------------|--|
| Brush Creek | 774 | 884 | 822 |
| Deep Creek | 16 | 16 | 33 |
| Diamond Rim | 120 | 120 | 200 |
| Dry Fork | 259 | 470 | 577 |
| Hacking | 63 | 76 | 91 |
| Hungry Hollow-Pete's Ridge | 670 | 2,000 | 2,098 |
| Island Park | 33 | 35 | 304 |
| Johnson | 79 | 86 | 92 |
| Mosby | 224 | 235 | 265 |
| Paddy's Gap | 272 | 291 | 307 |
| Perry | 79 | 96 | 155 |
| Red Mountain | 190 | 300 | 328 |
| S. J. Hatch | 1,032 | 1,533 | 2,408 |
| Smelter Spring | 23 | 24 | 47 |
| Water Canyon 1 | 153 | 153 | 141 |
| Water Canyon 2 | 133 | 138 | 178 |
| West Little Mountain | 112 | 124 | 124 |
| Willow Spring | 82 | 85 | 172 |
| Total | 4,014 | 6,666 | 8,342 |

^aThese AUM figures exceed or are within 8 percent of active preference and are, therefore, considered equal to active preference.

Recommendation 4.2

The present AMPs would continue on six allotments (totaling 34,274 Federal acres). Needed vegetation manipulation would be performed to maximize livestock forage production. Permittees would be allowed to graze their livestock at active preference until vegetation manipulation was complete. Season of use would remain the same. An evaluation would then be made at the end of the first grazing cycle to determine grazing capacities.

Watershed - Spring livestock grazing on Brush Creek, S.J. Hatch, and Paddy's Gap Allotments would conflict with the recommendation to restrict livestock grazing to winter periods.

Wildlife - Vegetation manipulation would compliment the recommendation to remove pinyon-juniper. Vegetation manipulation and livestock increases would conflict with the recommendation to allow no change until an HMP was developed. Livestock increases would conflict with the recommendation to provide more forage for wildlife. Vegetation manipulation in the Brush Creek, Dry Fork, Red Mountain, and Willow Spring Allotment would conflict with the recommendation to allow no type conversion of mahogany, serviceberry, or bitterbrush dominated vegetation.

Recreation - Vegetation manipulation on Brush Creek, Dry Fork, Red Mountain, Water Canyon 1 and Water Canyon 2 would conflict with VRM Class II objectives. Vegetation manipulation and livestock increases in the Dry Fork Allotment would conflict with the recommendation to establish a picnicking/camping area for intensive use. Vegetation manipulation and livestock increases in Brush Creek and Paddy's Gap Allotments would conflict with the recommendation to develop a recreation plan for the Red Fleet Reservoir. Vegetation manipulation would conflict with the recommendation to avoid any man-made disturbance that would alter the primitive experience in the ponderosa pine portion of Red Mountain Allotment. Livestock increases on the Brush Creek Allotment would conflict with the recommendation to develop Honda Hills as an intensive ORV use area.

Cultural Resources - Vegetation manipulation in the Dry Fork Allotment would conflict with the proposed Red Mountain ACEC.

Lands - Expenditures to improve rangelands would conflict with the recommendations to dispose of public lands on Red Mountain Allotment. Expenditures to improve rangelands would conflict with the recommendation to expand tailings disposal.

Forest Products - Vegetation manipulation would compliment the recommendation to permit the harvest of dead-and-down firewood.

Wildlife - Vegetation manipulation and livestock increases on Coalmine Basin, Cottonwood Springs, Donkey Flat, East Little Mountain, and Shindy Allotments would conflict with the recommendation to allow no change until an HMP was developed. Vegetation manipulation on Green River Bottoms would conflict with the recommendation prohibiting cutting of cottonwood trees along the Green River. Livestock increases would conflict with the recommendation to provide more forage for wildlife.

APPENDIX 2 (continued)

MFP Step 2 Multiple Use Rangeland Recommendation

Trade-Off

AMPs would be implemented on all 18 allotments. Permittees would be allowed to graze their livestock at active preference. Season of use would remain the same. Actual use, vegetation utilization, and trend data would be collected to verify proper grazing capacity. If studies indicated, adjustments would be made to bring vegetation utilization to the proper 40 to 60 percent.

The proposal is the same as the rangeland management recommendation except for the proposed vegetation manipulation. Vegetation manipulation would be performed on these allotments to improve forage production as long as it did not degrade crucial big game winter range, conflict with VRM classes or adversely affect the semi-primitive values of Red Mountain or the proposed Red Mountain ACEC. Additional forage produced above active preference could be used by livestock on a temporary basis until needed by big game.

Rationale:

There appears to be enough forage on these allotments to satisfy active preference. Vegetation manipulation in these allotments would be limited to meet VRM objectives and would not conflict with the crucial winter range along the Diamond Mountain front. Projected increases in big game will require additional forage.

The amount of vegetation manipulation would be reduced to protect big game winter range, VRM areas, and the proposed Red Mountain ACEC. The actual forage increase from vegetation manipulation would be provided to big game when needed and livestock would be given increased forage only on a temporary basis.

Present AMPs would be continued on all six allotments. Permittees would be allowed to graze their livestock at active preference. Forage produced above active preference would be allocated to livestock on a temporary basis until big game demand increased.

Vegetation manipulation would be performed on these allotments, except the Green River Bottoms, to improve forage production as long as it did

Livestock would receive less forage because the increases produced from vegetation manipulation would be given to big game when needed.

APPENDIX 2 (continued)

MFP Step 1 Rangeland Management Recommendation

Impact Identification

| Allotment | Average Use (AUMs) | Active Preference (AUMs) | Present Grazing Capacity (AUMs) ^a |
|----------------------|--------------------|--------------------------|--|
| Coalmine Basin | 693 | 720 | 901 |
| Cottonwood Spring | 442 | 1,239 | 1,374 |
| Donkey Flat | 379 | 402 | 488 |
| East Little Mountain | 276 | 335 | 333 ^a |
| Green River Bottoms | 329 | 330 | 400 |
| Shindy | 93 | 68 | 240 |
| Total | 2,212 | 3,094 | 3,736 |

Recreation - Vegetation manipulation on the Green River Bottoms Allotment conflicts with VRM Class II objectives. Vegetation manipulation and increases in livestock grazing on Donkey Flat Allotment would conflict with the recommendation to develop a recreation plan for Red Fleet Reservoir.

Lands - Expenditures to improve rangelands would conflict with the recommendation to dispose of public lands in the Coalmine Basin and Shindy Allotments.

^aThis AUM figure is within 1 percent of active preference, and it was, therefore, considered equal to active preference.

Recommendation 4.3

Livestock forage production would be maximized by increasing active preference on the following allotments (totaling 45,214 acres). Season of use would remain the same.

| Allotment | Average Use (AUMs) | Active Preference (AUMs) | Present Grazing Capacity (AUMs) |
|---------------|--------------------|--------------------------|---------------------------------|
| Little Desert | 1,542 | 1,645 | 2,293 |
| Ouray Valley | 40 | 30 | 62 |
| Wetlands | 776 | 1,043 | 1,200 |
| Total | 2,358 | 2,718 | 3,550 |

Watershed - Livestock grazing increases on Little Desert Allotment would conflict with the recommendation prohibiting livestock numbers to increase because of fragile soils.

Wildlife - An increase in livestock grazing on Wetlands Allotment would conflict with the recommendation to increase habitat for waterfowl production. Livestock increases would conflict with the recommendation to provide more forage for wildlife.

APPENDIX 2 (concluded)

MFP Step 2 Multiple Use Rangeland Recommendation

Trade-Off

not degrade crucial big game winter range or conflict with VRM objectives or the Red Fleet Reservoir Recreation Area. Additional forage produced above active preference could be used by livestock on a temporary basis until needed by big game.

Some areas proposed for vegetation manipulation by the rangeland management recommendation would not be completed.

Rationale:

Studies show that there is enough forage being produced on these allotments to meet active preference. Projected increases in big game will require additional forage in the future. The visual resource values are important near Vernal.

Livestock grazing would be allowed to increase on Little Desert and Ouray Valley Allotments (2,358 AUMs). A study would be conducted for 5 years to insure that the range could sustain the increases before increasing active preference. Enough forage would be reserved to support projected wildlife increases. Active preference would be maintained on the Wetlands Allotment (1,043 AUMs) and grazing impacts would be minimized on waterfowl habitat by maintaining the AMP.

Rationale:

Studies on these allotments show that grazing capacity exceeds active preference, with the exception of the Wetlands Allotment. There is little or no competition between livestock and wildlife. Much of the present grazing capacity in the Wetlands Allotment is a result of waterfowl habitat developments and is needed by waterfowl.

Permittees would not be given 157 AUMs of forage in the Wetlands Allotment.

APPENDIX 3
TABLE 1

Alternative 1: Proposed Action - Multiple-Use Recommendation
Initial Stocking, Quantification of Change, Management Level,
and Vegetation Manipulation by Allotment

| | AUMs | | Average Livestock Use | Present Big Game Use ^a | AUMs Change From | | Objective Stocking | | Management Level (AMP) | Vegetation Manipulation (Acres) |
|---|--------------------------|----------|-----------------------------|---|--|-------------------------|--------------------|--------|---------------------------|---------------------------------------|
| | Initial Use Livestock | Big Game | | | Active Preference ^a Livestock | Prior Stable Deer | Antelope | Elk | | |
| 1. ALLOW LIVESTOCK GRAZING AT AVERAGE USE | | | | | | | | | | |
| Argyle Ridge | 380 | 298 | 0 | 0 | -160 | -132 | 0 | -507 | Implement | 320 |
| Bull Canyon | 885 | 313 | 0 | 0 | -115 | -183 | -28 | -8 | None | -- |
| Currant Canyon | 240 | 142 | 0 | 0 | 0 | -77 | 0 | -168 | Implement | 400 |
| Devils Canyon | 739 | 346 | 0 | 0 | -629 | -114 | -27 | -61 | Implement | 1,280 |
| Five Mile | 856 | 108 | 0 | 0 | -200 | -24 | -128 | -94 | Implement | 6,720 |
| Holmes | 32 | 82 | 0 | 0 | -5 | 0 | 0 | 0 | None | -- |
| Leers Canyon | 463 | 217 | 0 | 0 | -139 | -91 | 0 | -283 | Implement | 720 |
| McFarley Flat | 321 | 186 | 0 | 0 | -39 | -175 | 0 | 0 | None | -- |
| Middleton-North Tullis | 110 | 21 | 0 | 0 | -21 | -5 | 0 | 0 | None | -- |
| Parley Canyon | 463 | 284 | 0 | 0 | -2 | -138 | 0 | -337 | Implement | 2,640 |
| South Tullis | 53 | 21 | 0 | 0 | -1 | -20 | 0 | 0 | None | -- |
| Spring Creek | 190 | 284 | 0 | 0 | -6 | -97 | 0 | -160 | Implement | 920 |
| Young | 151 | 25 | 0 | 0 | -208 | -16 | 0 | 0 | None | -- |
| Subtotal | 4,883 | 2,327 | 0 | 0 | -1,525 | -1,072 | -183 | -1,618 | | 13,000 |
| 2. ALLOW LIVESTOCK GRAZING AT THE GRAZING CAPACITY INDICATED BY CURRENT STUDIES | | | | | | | | | | |
| Antelope Power | 1,475 | 31 | +678 | 0 | -125 | -10 | -71 | 0 | Continue | 160 |
| Big Wash | 700 | 80 | +322 | 0 | -280 | -18 | -61 | -93 | Continue | -- |
| East Huber | 846 | 135 | +493 | +38 | -332 | 0 | -3 | 0 | None | -- |
| Eight Mile Flat | 547 | 22 | +236 | 0 | -516 | -7 | -69 | 0 | None | -- |
| Halfway Hollow | 180 | 22 | +91 | +13 | -51 | -5 | -8 | 0 | None | -- |
| Horseshoe Bend | 99 | 103 | +12 | 0 | -46 | 0 | -6 | 0 | Continue | -- |
| Ouray Road | 655 | 127 | +179 | +49 | -202 | -20 | +3 | 0 | None | -- |
| Rich and Stetson | 56 | 10 | -6 | 0 | -9 | 0 | 0 | 0 | None | -- |
| Shiner | 3,166 | 409 | +1,544 | 0 | -615 | -515 | -124 | -112 | Continue | 8,000 |
| Snyder Spring-Step Ant | 1,814 | 49 | +617 | +25 | -2,136 | -7 | -44 | 0 | Implement | 240 |
| Twelve Mile | 602 | 28 | +489 | 0 | -84 | 0 | -24 | 0 | None | -- |
| Wells Draw | 1,641 | 42 | +257 | 0 | -635 | -6 | -150 | 0 | Implement | 1,120 |
| West Huber | 374 | 79 | +120 | +13 | -28 | 0 | -8 | 0 | None | -- |
| Subtotal | 12,155 | 1,137 | +5,032 | +138 | -5,059 | -588 | -564 | -205 | | 9,520 |
| 3. ALLOW LIVESTOCK GRAZING AT ACTIVE PREFERENCE | | | | | | | | | | |
| Asphalt Ridge | 54 | 5 | +23 | 0 | 0 | 0 | 0 | 0 | None | -- |
| Brush Creek | 884 | 758 | +110 | 0 | 0 | -304 | 0 | -159 | Implement | 1,900 |
| Canal | 224 | 56 | +20 | +13 | 0 | 0 | +3 | 0 | None | -- |
| Coalmine Basin | 720 | 196 | +27 | 0 | 0 | -139 | 0 | -96 | Continue | 3,120 |
| Cook | 500 | 186 | +346 | 0 | 0 | -20 | -19 | 0 | None | -- |
| Cottonwood Spring | 1,239 | 558 | +797 | 0 | 0 | -133 | -31 | -79 | Continue | 3,760 |
| Deep Creek | 16 | 24 | 0 | 0 | 0 | -41 | 0 | -17 | Implement | 160 |
| Diamond Rim | 120 | 194 | 0 | 0 | 0 | -68 | 0 | -271 | Implement | 1,920 |
| Dinosaur Park | 103 | 96 | +21 | 0 | 0 | -33 | 0 | -96 | None | -- |
| Donkey Flat | 402 | 949 | +23 | 0 | 0 | -236 | 0 | -31 | Continue | 2,160 |
| Dry Fork | 470 | 558 | +211 | 0 | 0 | -134 | 0 | -48 | Implement | 1,080 |
| East Little Mountain | 335 | 124 | +59 | 0 | 0 | -217 | 0 | -128 | Continue | 1,760 |
| Flue Knoll-Twin Knolls | 702 | 67 | +164 | +25 | 0 | -14 | +28 | 0 | None | -- |
| Green River Bottoms | 330 | 54 | +1 | 0 | 0 | -31 | -23 | 0 | Continue | -- |
| Hacking | 76 | 39 | +13 | 0 | 0 | -21 | 0 | -23 | Implement | 80 |
| Hungry Hollow-Pete's Ridge | 2,000 | 122 | +1,330 | +75 | 0 | -19 | +40 | 0 | Implement | 2,000 |

APPENDIX 3, TABLE 1 (continued)

| | AUMs | | Average Livestock Use | Present Big Game Use ^a | AUMs Change From | | Objective Antelope | Stocking Elk | Management Level (AMP) | Vegetation Manipulation (Acres) |
|--|--------------------------|----------|-----------------------------|---|--|-------------------------|-----------------------|-----------------|---------------------------|---------------------------------------|
| | Initial Use Livestock | Big Game | | | Active Preference ^a Livestock | Prior Stable Deer | | | | |
| 3. ALLOW LIVESTOCK GRAZING AT ACTIVE PREFERENCE (continued) | | | | | | | | | | |
| Island Park | 35 | 381 | +2 | 0 | 0 | -103 | -25 | -160 | Implement | 1,760 |
| Johnson | 86 | 50 | +7 | 0 | 0 | -21 | 0 | -23 | Implement | 640 |
| Mosby | 235 | 212 | +11 | 0 | 0 | -88 | 0 | -112 | Implement | 1,280 |
| Paddy's Gap | 291 | 149 | +19 | 0 | 0 | -161 | 0 | -16 | Implement | 1,200 |
| Palmer | 92 | 10 | +1 | 0 | 0 | -31 | 0 | 0 | None | -- |
| Pelican Lake | 544 | 62 | +374 | 0 | 0 | -37 | -25 | 0 | None | -- |
| Perry | 96 | 109 | +17 | 0 | 0 | -129 | 0 | -32 | Implement | 1,520 |
| Powell (Ashley Creek) | 140 | 31 | +34 | 0 | 0 | -21 | 0 | 0 | None | -- |
| Powell (Twelve Mile) | 297 | 31 | +211 | 0 | 0 | -51 | -12 | 0 | None | -- |
| Red Mountain | 300 | 950 | +110 | 0 | 0 | -207 | 0 | -287 | Implement | -- |
| S. J. Hatch | 1,533 | 457 | +501 | 0 | 0 | -386 | 0 | -143 | Implement | 6,800 |
| Sadler | 89 | 31 | +54 | 0 | 0 | -10 | 0 | 0 | None | -- |
| Shindy | 68 | 155 | -25 | 0 | 0 | -103 | 0 | -96 | Continue | 2,080 |
| Smelter Spring | 24 | 69 | +1 | 0 | 0 | -10 | 0 | 0 | Implement | 240 |
| Sunshine Bench | 207 | 25 | +65 | 0 | 0 | -16 | 0 | 0 | None | -- |
| Water Canyon 1 | 153 | 155 | 0 | 0 | 0 | -21 | 0 | -116 | Implement | 80 |
| Water Canyon 2 | 138 | 60 | +5 | 0 | 0 | -18 | -13 | -2 | Implement | 800 |
| West Little Mountain | 124 | 70 | +12 | 0 | 0 | -93 | 0 | -269 | Implement | 480 |
| West Pelican Lake | 251 | 23 | +32 | 0 | 0 | 0 | -17 | 0 | None | -- |
| Wetlands | 1,043 | 78 | +267 | 0 | 0 | -31 | -72 | 0 | Continue | -- |
| Willow Spring | 85 | 64 | +3 | 0 | 0 | -31 | 0 | -19 | Implement | 80 |
| Subtotal | 14,006 | 7,158 | +4,846 | +113 | 0 | -2,978 | -302 | -2,223 | | 34,900 |
| 4. ALLOW LIVESTOCK GRAZING ABOVE ACTIVE PREFERENCE | | | | | | | | | | |
| Little Desert | 2,293 | 195 | +751 | +125 | +648 | -42 | -46 | 0 | Continue | -- |
| Ouray Valley | 62 | 13 | +22 | 0 | +32 | -8 | -12 | 0 | None | -- |
| Subtotal | 2,355 | 208 | +773 | +125 | +680 | -50 | -58 | 0 | | -- |
| Total | 33,399 | 10,830 | +10,651 | +376 | -5,904 | -4,688 | -1,107 | -4,046 | | 57,420 |

Source: Appendix 2.

^aPresent use, average use, and active preference are shown in Appendix 1.

APPENDIX 3 (continued)

TABLE 2

Alternative 2: Livestock Forage Recommendation
Initial Stocking, Quantification of Change, Management Level,
and Vegetation Manipulation by Allotment

| | AUMs Proposed Use ^a | | AUMs Changed From Present Use | | Management Level (AMP) | Vegetation Manipulation (Acres) |
|--|-----------------------------------|----------|----------------------------------|----------|---------------------------|---------------------------------------|
| | Livestock | Big Game | Livestock | Big Game | | |
| 1. <u>NO CHANGE FROM ALTERNATIVE 1</u> | | | | | | |
| Asphalt Ridge | 54 | 5 | +23 | 0 | None | -- |
| Big Wash | 700 | 80 | +322 | 0 | Continue | -- |
| Bull Canyon | 885 | 313 | 0 | 0 | None | -- |
| Canal | 224 | 43 | +20 | 0 | None | -- |
| Cook | 500 | 186 | +346 | 0 | None | -- |
| Dinosaur Park | 103 | 96 | +21 | 0 | None | -- |
| Eight Mile Flat | 547 | 22 | +236 | 0 | None | -- |
| Flue Knoll-Twin Knolls | 702 | 42 | +164 | 0 | None | -- |
| Holmes | 32 | 82 | 0 | 0 | None | -- |
| Horseshoe Bend | 87 | 103 | 0 | 0 | Continue | -- |
| Little Desert | 2,293 | 70 | +751 | 0 | Continue | -- |
| McFarley Flat | 321 | 186 | 0 | 0 | None | -- |
| Middleton-North Tullis | 110 | 21 | 0 | 0 | None | -- |
| Ouray Valley | 62 | 13 | +22 | 0 | None | -- |
| Palmer | 92 | 10 | +1 | 0 | None | -- |
| Pelican Lake | 544 | 62 | +374 | 0 | None | -- |
| Powell (Ashley Creek) | 140 | 31 | +34 | 0 | None | -- |
| Powell (Twelve Mile) | 297 | 31 | +211 | 0 | None | -- |
| Rich and Stetson | 62 | 10 | 0 | 0 | None | -- |
| Sadlier | 89 | 31 | +54 | 0 | None | -- |
| South Tullis | 53 | 21 | 0 | 0 | None | -- |
| Sunshine Bench | 207 | 25 | +65 | 0 | None | -- |
| West Huber | 254 | 66 | 0 | 0 | None | -- |
| West Pelican Lake | 251 | 23 | +32 | 0 | None | -- |
| Young | 151 | 25 | 0 | 0 | None | -- |
| Subtotal | 8,760 | 1,597 | 2,676 | 0 | | -- |
| 2. <u>ALLOW LIVESTOCK GRAZING AT AVERAGE USE</u> | | | | | | |
| Argyle Ridge | 380 | 298 | 0 | 0 | Implement | 400 |
| Currant Canyon | 240 | 142 | 0 | 0 | Implement | 500 |
| Devils Canyon | 739 | 346 | 0 | 0 | Implement | 1,600 |
| East Huber | 353 | 97 | 0 | 0 | None | -- |
| Five Mile | 856 | 108 | 0 | 0 | Implement | 8,400 |
| Halfway Hollow | 89 | 9 | 0 | 0 | None | -- |
| Leer's Canyon | 463 | 217 | 0 | 0 | Implement | 900 |
| Ouray Road | 476 | 78 | 0 | 0 | None | -- |
| Parley Canyon | 463 | 284 | 0 | 0 | Implement | 3,300 |
| Snyder Spring-Step Ant | 1,197 | 24 | 0 | 0 | Implement | 300 |
| Spring Creek | 190 | 284 | 0 | 0 | Implement | 2,300 |
| Twelve Mile | 113 | 28 | 0 | 0 | None | -- |
| Wells Draw | 1,384 | 42 | 0 | 0 | Implement | 1,400 |
| Subtotal | 6,943 | 1,957 | 0 | 0 | | 19,100 |
| 3. <u>ALLOW LIVESTOCK GRAZING AT THE GRAZING CAPACITY INDICATED BY CURRENT STUDY</u> | | | | | | |
| Antelope Powers | 1,475 | 31 | +678 | 0 | Continue | 200 |
| Shiner | 3,166 | 409 | +1,544 | 0 | Continue | 16,000 |
| Subtotal | 4,641 | 440 | 2,222 | 0 | | 16,200 |

APPENDIX 3, TABLE 2 (continued)

| | AUMs Proposed Use ^a | | AUMs Changed From Present Use | | Management Level (AMP) | Vegetation Manipulation (Acres) |
|---|-----------------------------------|----------|----------------------------------|----------|---------------------------|---------------------------------------|
| | Livestock | Big Game | Livestock | Big Game | | |
| 4. <u>ALLOW LIVESTOCK GRAZING AT ACTIVE PREFERENCE</u> | | | | | | |
| Brush Creek | 884 | 758 | +110 | 0 | Implement | 3,800 |
| Coalmine Basin | 720 | 196 | +27 | 0 | Continue | 3,900 |
| Cottonwood Spring | 1,239 | 558 | +797 | 0 | Continue | 4,700 |
| Deep Creek | 16 | 24 | 0 | 0 | Implement | 200 |
| Diamond Rim | 120 | 194 | 0 | 0 | Implement | 2,400 |
| Donkey Flat | 402 | 949 | +23 | 0 | Continue | 2,700 |
| Dry Fork | 470 | 558 | +211 | 0 | Implement | 3,600 |
| East Little Mountain | 335 | 124 | +59 | 0 | Continue | 2,200 |
| Green River Bottoms | 330 | 54 | +1 | 0 | Continue | 100 |
| Hacking | 76 | 39 | +13 | 0 | Implement | 100 |
| Hungry Hollow-Pete's Ridge | 2,000 | 47 | +1,330 | 0 | Implement | 2,500 |
| Island Park | 35 | 381 | +2 | 0 | Implement | 2,200 |
| Johnson | 86 | 50 | +7 | 0 | Implement | 700 |
| Mosby | 235 | 212 | +11 | 0 | Implement | 1,600 |
| Paddy's Gap | 291 | 149 | +19 | 0 | Implement | 1,500 |
| Perry | 96 | 109 | +17 | 0 | Implement | 1,900 |
| Red Mountain | 300 | 950 | +110 | 0 | Implement | 4,500 |
| S. J. Hatch | 1,533 | 457 | +501 | 0 | Implement | 8,500 |
| Shindy | 68 | 155 | -25 | 0 | Continue | 2,600 |
| Smelter Spring | 24 | 69 | +1 | 0 | Implement | 300 |
| Water Canyon 1 | 153 | 155 | 0 | 0 | Implement | 100 |
| Water Canyon 2 | 138 | 60 | +5 | 0 | Implement | 1,000 |
| West Litte Mountain | 124 | 70 | +12 | 0 | Implement | 600 |
| Willow Spring | 85 | 64 | +3 | 0 | Implement | 100 |
| Subtotal | 9,760 | 6,382 | 3,234 | 0 | | 51,900 |
| 5. <u>ALLOW LIVESTOCK GRAZING ABOVE ACTIVE PREFERENCE</u> | | | | | | |
| Wetlands | 1,200 | 78 | +424 | 0 | Continue | 0 |
| Total | 31,304 | 10,454 | +8,556 | 0 | | 87,200 |

Source: Appendix 2.

^aAppendix 1 shows the present AUMs of each kind of big game.

APPENDIX 3 (continued)

TABLE 3

Alternative 3: No Action - Active Preference
Initial Stocking and Change
in Livestock Use by Allotment

| | AUMs | | AUMs Changed From Average Livestock Use |
|--|--------------------------|----------|---|
| | Initial Use Livestock | Big Game | |
| 1. <u>NO CHANGE FROM ALTERNATIVE 1</u> | | | |
| Asphalt Ridge | 54 | 5 | +23 |
| Brush Creek | 884 | 758 | +110 |
| Canal | 224 | 43 | +20 |
| Coalmine Basin | 720 | 196 | +27 |
| Cook | 500 | 186 | +346 |
| Cottonwood Spring | 1,239 | 558 | +797 |
| Deep Creek | 16 | 24 | 0 |
| Diamond Rim | 120 | 194 | 0 |
| Dinosaur Park | 103 | 96 | +21 |
| Donkey Flat | 402 | 949 | +23 |
| Dry Fork | 470 | 558 | +211 |
| East Little Mountain | 335 | 124 | +59 |
| Flue Knoll-Twin Knolls | 702 | 42 | +164 |
| Green River Bottoms | 330 | 54 | +1 |
| Hacking | 76 | 39 | +13 |
| Hungry Hollow-Pete's Ridge | 2,000 | 47 | +1,330 |
| Island Park | 35 | 381 | +2 |
| Johnson | 86 | 50 | +7 |
| Mosby | 235 | 212 | +11 |
| Paddy's Gap | 291 | 149 | +19 |
| Palmer | 92 | 10 | +1 |
| Pelican Lake | 544 | 62 | +374 |
| Perry | 96 | 109 | +17 |
| Powell (Ashley Creek) | 140 | 31 | +34 |
| Powell (Twelve Mile) | 297 | 31 | +211 |
| Red Mountain | 300 | 950 | +110 |
| S. J. Hatch | 1,533 | 457 | +501 |
| Sadlier | 89 | 31 | +54 |
| Shindy | 68 | 155 | -25 |
| Smelter Spring | 24 | 69 | +1 |
| Sunshine Bench | 207 | 25 | +65 |
| Water Canyon 1 | 153 | 155 | 0 |

APPENDIX 3, TABLE 3 (continued)

| | AUMs | | AUMs Changed From Average Livestock Use |
|--|----------------------|-----------------|---|
| | Initial Livestock | Use Big Game | |
| <u>1. NO CHANGE FROM ALTERNATIVE 1</u> | | | |
| Water Canyon 2 | 138 | 60 | +5 |
| West Little Mountain | 124 | 70 | +12 |
| West Pelican Lake | 251 | 23 | +32 |
| Wetlands | 1,043 | 78 | +267 |
| Willow Spring | 85 | 64 | +3 |
| Subtotal | 14,006 | 7,045 | +4,846 |
| <u>2. ALLOW LIVESTOCK GRAZING AT ACTIVE PREFERENCE</u> | | | |
| Antelope Powers | 1,600 | 31 | +803 |
| Argyle Ridge | 540 | 298 | +160 |
| Big Wash | 980 | 80 | +602 |
| Bull Canyon | 1,000 | 313 | +115 |
| Currant Canyon | 240 | 142 | 0 |
| Devils Canyon | 1,368 | 346 | +629 |
| East Huber | 1,178 | 97 | +825 |
| Eight Mile Flat | 1,063 | 22 | +752 |
| Five Mile | 1,056 | 108 | +200 |
| Halfway Hollow | 231 | 9 | +142 |
| Holmes | 37 | 82 | +5 |
| Horseshoe Bend | 145 | 103 | +58 |
| Leers Canyon | 602 | 217 | +139 |
| Little Desert | 1,645 | 70 | +103 |
| McFarley Flat | 360 | 186 | +39 |
| Middleton-North Tullis | 131 | 21 | +21 |
| Ouray Road | 857 | 78 | +381 |
| Ouray Valley | 30 | 13 | -10 |
| Parley Canyon | 465 | 284 | +2 |
| Rich and Stetson | 65 | 10 | +3 |
| Shiner | 3,781 | 409 | +2,159 |
| Snyder Spring-Step Ant | 3,950 | 24 | +2,753 |
| South Tullis | 54 | 21 | +1 |
| Spring Creek | 196 | 284 | +6 |
| Twelve Mile | 686 | 28 | +573 |
| Wells Draw | 2,276 | 42 | +892 |
| West Huber | 402 | 66 | +148 |
| Young | 359 | 25 | +208 |
| Subtotal | 25,297 | 3,409 | +11,709 |
| TOTAL | 39,303 | 10,454 | +16,555 |

Source: USDI, BLM, 1981.

TABLE 4

Alternative 4: No Change - Average Use
Initial Stocking, Management Level, and
Vegetation Manipulation by Allotment

| | AUMs | | | | Management Level (AMP) | Vegetation Manipulation (Acres) |
|--|--------------------------|------------------------------|----------|-----|---------------------------|---------------------------------------|
| | Present and Livestock | Proposed Initial Use Deer | Antelope | Elk | | |
| 1. <u>NO CHANGE FROM ALTERNATIVE 1</u> | | | | | | |
| Argyle Ridge | 380 | 198 | 0 | 100 | Implement | 300 |
| Bull Canyon | 885 | 310 | 3 | 0 | None | -- |
| Currant Canyon | 240 | 131 | 0 | 11 | Implement | 375 |
| Devils Canyon | 739 | 343 | 3 | 0 | None | -- |
| Five Mile | 856 | 74 | 2 | 32 | Implement | 6,300 |
| Holmes | 32 | 82 | 0 | 0 | None | -- |
| Leers Canyon | 463 | 199 | 0 | 18 | None | -- |
| McFarley Flat | 321 | 186 | 0 | 0 | None | -- |
| Middleton-North Tullis | 110 | 21 | 0 | 0 | None | -- |
| Parley Canyon | 463 | 266 | 0 | 18 | Implement | 2,475 |
| South Tullis | 53 | 21 | 0 | 0 | None | -- |
| Spring Creek | 190 | 284 | 0 | 0 | Implement | 860 |
| Young | 151 | 25 | 0 | 0 | None | -- |
| Subtotal | 4,883 | 2,140 | 8 | 179 | | 10,310 |
| 2. <u>ALLOW LIVESTOCK GRAZING AT AVERAGE USE</u> | | | | | | |
| Antelope Powers | 797 | 21 | 10 | 0 | Continue | -- |
| Asphalt Ridge | 31 | 5 | 0 | 0 | None | -- |
| Big Wash | 378 | 39 | 8 | 33 | Continue | -- |
| Brush Creek | 774 | 598 | 0 | 160 | Implement | 2,280 |
| Canal | 204 | 41 | 2 | 0 | None | -- |
| Coalmine Basin | 693 | 196 | 0 | 0 | Continue | -- |
| Cook | 154 | 186 | 0 | 0 | None | -- |
| Cottonwood Spring | 442 | 382 | 0 | 176 | Continue | -- |
| Deep Creek | 16 | 21 | 0 | 3 | None | -- |
| Diamond Rim | 120 | 66 | 0 | 128 | None | -- |
| Dinosaur Park | 82 | 96 | 0 | 0 | None | -- |
| Donkey Flat | 379 | 773 | 0 | 176 | Continue | -- |
| Dry Fork | 259 | 494 | 0 | 64 | Implement | 2,700 |
| East Huber | 353 | 82 | 15 | 0 | None | -- |
| East Little Mountain | 276 | 92 | 0 | 32 | Continue | -- |
| Eight Mile Flat | 311 | 14 | 8 | 0 | None | -- |
| Flue Knoll-Twin Knolls | 538 | 34 | 8 | 0 | None | -- |
| Green River Bottoms | 329 | 52 | 2 | 0 | Continue | -- |
| Hacking | 63 | 30 | 0 | 9 | None | -- |
| Halfway Hollow | 89 | 5 | 4 | 0 | None | -- |
| Horseshoe Bend | 87 | 103 | 0 | 0 | Continue | -- |
| Hungry Hollow-Pete's Ridge | 670 | 31 | 16 | 0 | None | -- |
| Island Park | 33 | 381 | 0 | 0 | None | -- |
| Johnson | 79 | 41 | 0 | 9 | None | -- |
| Little Desert | 1,542 | 41 | 29 | 0 | Continue | -- |
| Mosby | 224 | 196 | 0 | 16 | Implement | 1,200 |
| Ouray Road | 476 | 62 | 16 | 0 | None | -- |
| Ouray Valley | 40 | 13 | 0 | 0 | None | -- |
| Paddy's Gap | 272 | 149 | 0 | 0 | None | -- |
| Palmer | 91 | 10 | 0 | 0 | None | -- |
| Pelican Lake | 170 | 56 | 6 | 0 | None | -- |
| Perry | 79 | 77 | 0 | 32 | None | -- |

APPENDIX 3, TABLE 4 (continued)

| | AUMs | | | | Management Level (AMP) | Vegetation Manipulation (Acres) |
|--|-----------|----------|-------------|-------|---------------------------|---------------------------------------|
| | Present | Proposed | Initial Use | | | |
| | Livestock | Deer | Antelope | Elk | | |
| 2. <u>ALLOW LIVESTOCK GRAZING AT</u> <u>AVERAGE USE (continued)</u> | | | | | | |
| Powell (Ashley Creek) | 106 | 31 | 0 | 0 | None | -- |
| Powell (Twelve Mile) | 86 | 31 | 0 | 0 | None | -- |
| Red Mountain | 190 | 567 | 0 | 383 | None | -- |
| Rich and Stetson | 62 | 10 | 0 | 0 | None | -- |
| S. J. Hatch | 1,032 | 361 | 0 | 96 | Implement | 6,370 |
| Sadlier | 35 | 31 | 0 | 0 | None | -- |
| Shindy | 93 | 155 | 0 | 0 | Continue | -- |
| Shiner | 1,622 | 361 | 0 | 48 | Continue | -- |
| Smelter Spring | 23 | 21 | 0 | 48 | None | -- |
| Snyder Spring-Step Ant | 1,197 | 14 | 10 | 0 | Implement | 225 |
| Sunshine Bench | 142 | 25 | 0 | 0 | Implement | -- |
| Twelve Mile | 113 | 21 | 7 | 0 | None | -- |
| Water Canyon 1 | 153 | 55 | 0 | 100 | Implement | 75 |
| Water Canyon 2 | 133 | 57 | 3 | 0 | Implement | 750 |
| Wells Draw | 1,384 | 19 | 23 | 0 | None | -- |
| West Huber | 254 | 62 | 4 | 0 | None | -- |
| West Little Mountain | 112 | 51 | 0 | 19 | Implement | 450 |
| West Pelican Lake | 219 | 21 | 2 | 0 | None | -- |
| Wetlands | 776 | 72 | 6 | 0 | Continue | -- |
| Willow Spring | 82 | 51 | 0 | 13 | None | -- |
| Subtotal | 17,865 | 6,403 | 179 | 1,545 | | 14,050 |
| Total | 22,748 | 8,543 | 187 | 1,724 | | 24,360 |

Source: USDI, BLM, 1981.

TABLE 5

Alternative 5: Wildlife Habitat Recommendation
Initial Stocking, Change in Livestock and Big Game Use,
and Vegetation Manipulation by Allotment

| | Livestock | | Present and | | | Change in Livestock Use (AUMs) | Future Big Game Use Objective (AUMs) | | | Change in Big Game Use (AUMs) | Vegetation Manipulation (Acres) |
|--------------------------------|-----------------------|-----------------------|---------------------------------|----------|-----|--------------------------------------|---|----------|-------|-------------------------------------|---------------------------------------|
| | Present Use (AUMs) | Initial Use (AUMs) | Initial Use (AUMs) ^a | | | | Prior Stable | Antelope | Elk | | |
| | | | Deer | Antelope | Elk | | | | | | |
| 1. GRAZING AT AVERAGE USE | | | | | | | | | | | |
| Antelope Powers | 797 | 797 | 21 | 10 | 0 | 0 | 31 | 81 | 0 | +81 | 150 |
| Asphalt Ridge | 31 | 31 | 5 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | -- |
| Big Wash | 378 | 378 | 39 | 8 | 33 | 0 | 57 | 69 | 126 | +172 | -- |
| Canal | 204 | 204 | 41 | 2 | 0 | 0 | 41 | 12 | 0 | +10 | -- |
| Coalmine Basin | 693 | 693 | 196 | 0 | 0 | 0 | 335 | 0 | 96 | +235 | 2,900 |
| Cook | 154 | 154 | 186 | 0 | 0 | 0 | 206 | 19 | 0 | +39 | -- |
| Cottonwood Spring | 442 | 442 | 382 | 0 | 176 | 0 | 515 | 31 | 255 | +243 | 3,500 |
| Deep Creek | 16 | 16 | 21 | 0 | 3 | 0 | 62 | 0 | 20 | +58 | 150 |
| Devils Canyon ^b | 739 | 739 | 343 | 3 | 0 | 0 | 457 | 30 | 61 | +248 | 1,200 |
| Oonkey Flat | 379 | 379 | 773 | 0 | 176 | 0 | 1,009 | 0 | 207 | +185 | 2,000 |
| Ory Fork | 259 | 259 | 494 | 0 | 64 | 0 | 628 | 0 | 112 | +182 | 600 |
| East Huber | 353 | 353 | 82 | 15 | 0 | 0 | 82 | 56 | 0 | +41 | -- |
| East Little Mountain | 276 | 276 | 92 | 0 | 32 | 0 | 309 | 0 | 160 | +345 | 1,650 |
| Eight Mile Flat | 311 | 311 | 14 | 8 | 0 | 0 | 21 | 77 | 0 | +76 | -- |
| Flue Knoll-Twin Knolls | 538 | 538 | 34 | 8 | 0 | 0 | 48 | 61 | 0 | +67 | -- |
| Green River Bottoms | 329 | 329 | 52 | 2 | 0 | 0 | 83 | 25 | 0 | +54 | 50 |
| Hacking | 63 | 63 | 30 | 0 | 9 | 0 | 51 | 0 | 32 | +44 | 50 |
| Halfway Hollow | 89 | 89 | 5 | 4 | 0 | 0 | 10 | 25 | 0 | +26 | -- |
| Hungry Hollow- Pete's Ridge | 670 | 670 | 31 | 16 | 0 | 0 | 50 | 131 | 0 | +134 | 700 |
| Island Park | 33 | 33 | 381 | 0 | 0 | 0 | 484 | 25 | 160 | +288 | 1,650 |
| Johnson | 79 | 79 | 41 | 0 | 9 | 0 | 62 | 0 | 32 | +44 | 400 |
| Little Desert | 1,542 | 1,542 | 41 | 29 | 0 | 0 | 83 | 200 | 0 | +213 | -- |
| McFarley Flat | 321 | 321 | 186 | 0 | 0 | 0 | 361 | 0 | 0 | +175 | -- |
| Mosby | 224 | 224 | 196 | 0 | 16 | 0 | 284 | 0 | 128 | +200 | 1,200 |
| Ouray Road | 476 | 476 | 62 | 16 | 0 | 0 | 82 | 62 | 0 | +66 | -- |
| Ouray Valley | 40 | 40 | 13 | 0 | 0 | 0 | 21 | 12 | 0 | +20 | -- |
| Palmer | 91 | 91 | 10 | 0 | 0 | 0 | 41 | 0 | 0 | +31 | -- |
| Pelican Lake | 170 | 170 | 56 | 6 | 0 | 0 | 93 | 31 | 0 | +62 | -- |
| Perry | 79 | 79 | 77 | 0 | 32 | 0 | 206 | 0 | 64 | +161 | 300 |
| Powell (Ashley Creek) | 106 | 106 | 31 | 0 | 0 | 0 | 52 | 0 | 0 | +21 | -- |
| Powell (Twelve Mile) | 86 | 86 | 31 | 0 | 0 | 0 | 82 | 12 | 0 | +63 | -- |
| S. J. Hatch | 1,032 | 1,032 | 361 | 0 | 96 | 0 | 747 | 0 | 239 | +529 | 700 |
| Sadlier | 35 | 35 | 31 | 0 | 0 | 0 | 41 | 0 | 0 | +10 | -- |
| Shindy | 93 | 93 | 155 | 0 | 0 | 0 | 258 | 0 | 96 | +199 | 1,950 |
| Shiner | 1,622 | 1,622 | 361 | 0 | 48 | 0 | 876 | 124 | 160 | +751 | 500 |
| Snyder Spring-Step Ant | 1,197 | 1,197 | 14 | 10 | 0 | 0 | 21 | 79 | 0 | +76 | 500 |
| Sunshine Bench | 142 | 142 | 25 | 0 | 0 | 0 | 41 | 0 | 0 | +16 | -- |
| Twelve Mile | 113 | 113 | 21 | 7 | 0 | 0 | 21 | 31 | 0 | +24 | -- |
| Water Canyon 1 | 153 | 153 | 55 | 0 | 100 | 0 | 76 | 0 | 216 | +137 | 50 |
| Water Canyon 2 | 133 | 133 | 57 | 3 | 0 | 0 | 75 | 16 | 2 | +33 | 750 |
| Wells Draw | 1,384 | 1,384 | 19 | 23 | 0 | 0 | 25 | 173 | 0 | +156 | 1,050 |
| West Huber | 254 | 254 | 62 | 4 | 0 | 0 | 62 | 25 | 0 | +21 | -- |
| West Pelican Lake | 219 | 219 | 21 | 2 | 0 | 0 | 21 | 19 | 0 | +17 | -- |
| Wetlands | 776 | 776 | 72 | 6 | 0 | 0 | 103 | 78 | 0 | +103 | -- |
| Willow Spring | 82 | 82 | 51 | 0 | 13 | 0 | 82 | 0 | 32 | +50 | 50 |
| Young | 151 | 151 | 25 | 0 | 0 | 0 | 41 | 0 | 0 | +16 | -- |
| SUBTOTAL | 17,354 | 17,354 | 5,296 | 182 | 807 | 0 | 8,341 | 1,504 | 2,198 | 5,861 | 22,050 |

APPENDIX 3, TABLE 5 (concluded)

| | Livestock | | Present and | | | Change in Livestock Use (AUMs) | Future Big Game Use Objective (AUMs) | | | Change in Big Game Use (AUMs) ^b | Vegetation Manipulation (Acres) |
|-------------------------------------|-----------------------|-----------------------|---------------------------------|----------|-------|--------------------------------------|---|----------|-------|--|---------------------------------------|
| | Present Use (AUMs) | Initial Use (AUMs) | Initial Use (AUMs) ^a | | | | Prior Stable | | | | |
| | | | Deer | Antelope | Elk | | Deer | Antelope | Elk | | |
| 2. <u>GRAZING BELOW AVERAGE USE</u> | | | | | | | | | | | |
| Argyle Ridge | 380 | 171 | 198 | 0 | 100 | -209 | 330 | 0 | 607 | +639 | 300 |
| Brush Creek ^b | 774 | 555 | 598 | 0 | 160 | -219 | 902 | 0 | 319 | +463 | 2,850 |
| Bull Canyon | 885 | 502 | 310 | 3 | 0 | -383 | 493 | 31 | 8 | +314 | -- |
| Currant Canyon | 240 | 94 | 131 | 0 | 11 | -146 | 208 | 0 | 179 | +245 | 400 |
| Diamond Rim | 120 | 110 | 66 | 0 | 128 | -10 | 134 | 0 | 399 | +339 | 700 |
| Dinosaur Park | 82 | 68 | 96 | 0 | 0 | -14 | 129 | 0 | 96 | +129 | -- |
| Five Mile | 856 | 546 | 74 | 2 | 32 | -310 | 98 | 130 | 126 | +129 | 6,300 |
| Holmes | 32 | 16 | 82 | 0 | 0 | -16 | 82 | 0 | 0 | 0 | -- |
| Horseshoe Bend | 87 | 66 | 103 | 0 | 0 | -21 | 103 | 6 | 0 | +6 | -- |
| Leers Canyon | 463 | 310 | 199 | 0 | 18 | -153 | 290 | 0 | 301 | +293 | 700 |
| Middleton-North Tullis | 110 | 87 | 21 | 0 | 0 | -23 | 26 | 0 | 0 | +5 | -- |
| Paddy's Gap | 272 | 262 | 149 | 0 | 0 | -10 | 310 | 0 | 16 | +177 | 1,100 |
| Parley Canyon | 463 | 228 | 266 | 0 | 18 | -235 | 404 | 0 | 355 | +475 | 2,500 |
| Red Mountain | 190 | 0 | 567 | 0 | 383 | -190 | 774 | 0 | 670 | +494 | 3,400 |
| Rich and Stetson | 62 | 37 | 10 | 0 | 0 | -25 | 10 | 0 | 0 | 0 | -- |
| Smelter Spring | 23 | 11 | 21 | 0 | 48 | -12 | 31 | 0 | 48 | +10 | 200 |
| South Tullis | 53 | 37 | 21 | 0 | 0 | -16 | 41 | 0 | 0 | +20 | -- |
| Spring Creek | 190 | 132 | 284 | 0 | 0 | -58 | 381 | 0 | 160 | +257 | 1,700 |
| West Little Mountain | 112 | 98 | 51 | 0 | 19 | -14 | 144 | 0 | 288 | +362 | 450 |
| Subtotal | 5,394 | 3,330 | 3,247 | 5 | 917 | 2,064 | 4,890 | 167 | 3,572 | 4,357 | 20,600 |
| Total | 22,748 | 20,684 | 8,543 | 187 | 1,724 | -2,064 | 13,231 | 1,671 | 5,770 | +10,218 | 42,650 |

Source: USDI, BLM, 1981.

^aPresent Use: Big game use is an estimate developed by UOWR and BLM. This number does not include the 376 AUMs needed to cover proposed antelope transplants. (Table 2-2 shows the allotments where these transplants would occur and indicates the proposed numbers.)

^bChanges in big game use (AUMs) do not include: Bull Canyon: bighorn sheep, 49 AUMs; and Devils Canyon: bighorn sheep, 46 AUMs.

APPENDIX 4

Ranch Budgets

TABLE 1

Average Costs and Returns for Small Beef Herds (0-99 Cows)

| Item | Unit | Number | Average Weight | Price Cwt | Total Value |
|--|------|--------|----------------|--------------|-------------|
| <u>Sales:</u> | | | | | |
| Steer Calves | Head | 20 | 390 | 86.13 | 6,718 |
| Heifer Calves | Head | 10 | 375 | 77.49 | 2,906 |
| Yearling Steers | Head | -- | -- | -- | -- |
| Yearling Heifers | Head | 3 | 650 | 65.47 | 1,277 |
| Cull Cows | Head | 6 | 850 | 41.27 | 2,105 |
| Total | | | | | 13,006 |
| Total Per Cow | | | | | 250 |
| <u>Cash Costs:</u> | | | | | |
| | | | Value/Cow | Total Values | |
| BLM Grazing Fee | | | 7.85 | 408 | |
| Forest Grazing Fee | | | 6.12 | 318 | |
| Private Range Lease/Rent | | | 9.97 | 518 | |
| State Lease | | | 1.26 | 65 | |
| Hay (produce) | | | 13.57 | 706 | |
| Hay (purchase) | | | -- | -- | |
| Protein Supplement | | | -- | -- | |
| Irrigated Pasture | | | 5.50 | 286 | |
| Salt and Mineral | | | 1.40 | 73 | |
| Concentrate Feeds | | | -- | -- | |
| Veterinary and Medicine | | | 3.75 | 195 | |
| Hired Trucking | | | 3.83 | 199 | |
| Marketing | | | 3.71 | 193 | |
| Fuel and Lubricants | | | 27.20 | 1,414 | |
| Repairs | | | 23.84 | 1,239 | |
| Taxes | | | 26.89 | 1,398 | |
| Insurance | | | 6.72 | 349 | |
| Interest on Operating Capital | | | 6.86 | 357 | |
| General Farm Overhead | | | 11.42 | 594 | |
| Other Cash Costs | | | -- | -- | |
| Hired Labor | | | .94 | 49 | |
| Total Cash Costs | | | 160.79 | 8,361 | |
| <u>Other Costs:</u> | | | | | |
| Family Labor | | | 44.84 | 2,332 | |
| Depreciation | | | 49.43 | 2,570 | |
| Interest on Investment Other Than Land | | | 117.42 | 6,106 | |
| Interest on Land | | | 385.01 | 20,021 | |
| Total Other Costs | | | 596.72 | 31,029 | |
| Total All Costs | | | 757.50 | 39,390 | |

Source: USDA, Economic, Statistics, and Cooperative Service (ESCS), 1982.

APPENDIX 4 (continued)

TABLE 2

Average Costs and Returns for Medium Beef Herds
(100-299 Cows)

| Item | Unit | Number | Average Weight | Price Cwt | Total Value |
|--|------|--------|----------------|--------------|-------------|
| <u>Sales:</u> | | | | | |
| Steer Calves | Head | 70 | 390 | 86.13 | 23,629 |
| Heifer Calves | Head | 24 | 375 | 77.49 | 6,974 |
| Yearling Steers | Head | 8 | 670 | 72.58 | 3,901 |
| Yearling Heifers | Head | 20 | 650 | 65.47 | 8,511 |
| Cull Cows | Head | 28 | 850 | 41.27 | 9,822 |
| Total | | | | | 52,832 |
| Total/Cow | | | | | 262 |
| <u>Cash Costs:</u> | | | | | |
| | | | Value/Cow | Total Values | |
| BLM Grazing Fee | | | 3.26 | 655 | |
| Forest Grazing Fee | | | 4.44 | 892 | |
| Private Range Lease/Rent | | | 13.33 | 2,679 | |
| State Lease | | | 1.34 | 269 | |
| Hay (produce) | | | 10.72 | 2,155 | |
| Hay (purchase) | | | 4.31 | 866 | |
| Protein Supplement | | | -- | -- | |
| Irrigated Pasture | | | 11.70 | 2,352 | |
| Salt and Mineral | | | 1.40 | 281 | |
| Concentrate Feeds | | | -- | -- | |
| Veterinary and Medicine | | | 4.95 | 995 | |
| Hired Trucking | | | 1.70 | 342 | |
| Marketing | | | 2.15 | 432 | |
| Fuel and Lubricants | | | 22.33 | 4,488 | |
| Repairs | | | 21.63 | 4,348 | |
| Taxes | | | 24.16 | 4,856 | |
| Insurance | | | 6.50 | 1,307 | |
| Interest on Operating Capital | | | 8.40 | 1,688 | |
| General Farm Overhead | | | 10.05 | 2,020 | |
| Other Cash Costs | | | -- | -- | |
| Hired Labor | | | 13.35 | 2,683 | |
| Total Cash Costs | | | 165.72 | 33,308 | |
| <u>Other Costs:</u> | | | | | |
| Family Labor | | | 25.90 | 5,206 | |
| Depreciation | | | 49.00 | 9,849 | |
| Interest on Investment Other Than Land | | | 117.07 | 23,531 | |
| Interest on Land | | | 344.55 | 69,255 | |
| Total Other Costs | | | 536.52 | 107,841 | |
| Total All Costs | | | | | 141,150 |

Source: USDA, ESCS, 1982.

TABLE 3

Average Costs and Returns for Large Beef Herds (over 300 Cows)

| Item | Unit | Number | Average Weight | Price Cwt | Total Value |
|--|------|--------|----------------|--------------|-------------|
| Sales: | | | | | |
| Steer Calves | Head | 260 | 390 | 86.13 | 87,282 |
| Heifer Calves | Head | 101 | 375 | 77.49 | 29,349 |
| Yearling Steers | Head | 52 | 670 | 72.58 | 25,287 |
| Yearling Heifers | Head | 93 | 650 | 65.47 | 39,577 |
| Cull Cows | Head | 119 | 850 | 41.27 | 41,744 |
| Total | | | | | 223,239 |
| Total Per Cow | | | | | 263 |
| Cash Costs: | | | | | |
| | | | Value/Cow | Total Values | |
| BLM Grazing Fee | | | 2.29 | 1,940 | |
| Forest Grazing Fee | | | 10.57 | 8,953 | |
| Private Range Lease/Rent | | | 14.79 | 12,527 | |
| State Lease | | | 1.50 | 1,271 | |
| Hay (produce) | | | 10.86 | 9,198 | |
| Hay (purchase) | | | 4.15 | 3,515 | |
| Protein Supplement | | | -- | -- | |
| Irrigated Pasture | | | 12.93 | 10,952 | |
| Salt and Mineral | | | 1.40 | 1,186 | |
| Concentrate Feeds | | | -- | -- | |
| Veterinary and Medicine | | | 1.55 | 1,313 | |
| Hired Trucking | | | 1.85 | 1,567 | |
| Marketing | | | 2.10 | 1,779 | |
| Fuel and Lubricants | | | 10.75 | 9,105 | |
| Repairs | | | 14.38 | 12,180 | |
| Taxes | | | 27.01 | 22,877 | |
| Insurance | | | 6.83 | 5,785 | |
| Interest on Operating Capital | | | 6.99 | 5,921 | |
| General Farm Overhead | | | 7.72 | 6,539 | |
| Other Cash Costs | | | -- | -- | |
| Hired Labor | | | 18.71 | 15,847 | |
| Total Cash Costs | | | 156.38 | 132,454 | |
| Other Costs: | | | | | |
| Family Labor | | | 12.35 | 10,460 | |
| Depreciation | | | 48.65 | 41,207 | |
| Interest on Investment Other Than Land | | | 112.77 | 95,516 | |
| Interest on Land | | | 321.48 | 272,294 | |
| Total Other Costs | | | 495.25 | 419,477 | |

Source: USDA, ESCS, 1982.

APPENDIX 4 (continued)

TABLE 4

Average Costs and Returns for Small Sheep Herd
(1 to 999 Ewes)

| Item | Unit | Number | Average Weight | Price Cwt | Total Value |
|-------------------------------|------|--------|----------------|--------------|-------------|
| <u>Sales:</u> | | | | | |
| Slaughter Lambs | Head | 236 | 93 | 66.30 | 14,552 |
| Feeder Lambs | Head | 122 | 82 | 73.96 | 7,399 |
| Ewes | Head | 41 | 145 | 26.86 | 1,597 |
| Wool | Lbs. | 412 | 10 | .88 | 3,626 |
| Wool Incentive Payment | Dol. | 3,626 | | .39 | 1,414 |
| Unshorn Lamb Payment | Cwt. | 320 | | 1.43 | 457 |
| Total | | | | | 29,045 |
| Total Per Cow | | | | | 71 |
| <u>Cash Costs:</u> | | | | | |
| | | | Value/Head | Total Values | |
| BLM Grazing Fee | | | 1.29 | 524 | |
| Forest Grazing Fee | | | 1.59 | 643 | |
| State Lease | | | .27 | 108 | |
| Irrigated Pasture | | | -- | -- | |
| Private Range Lease/Rent | | | 2.65 | 1,073 | |
| Hay (purchase) | | | 2.74 | 1,109 | |
| Hay (produce) | | | .70 | 282 | |
| Grain (purchase) | | | -- | -- | |
| Protein Supplement | | | 1.44 | 583 | |
| Other Feed | | | -- | -- | |
| Salt and Mineral | | | .28 | 113 | |
| Spray and Dipping | | | .02 | 9 | |
| Veterinary and Medicine | | | .36 | 146 | |
| Marketing | | | .10 | 41 | |
| Trucking | | | 2.44 | 988 | |
| Shearing and Tagging | | | 1.90 | 769 | |
| Utilities | | | .63 | 255 | |
| Lamb Promotion | | | .03 | 12 | |
| Organizations | | | .10 | 40 | |
| Legal and Accounting | | | .38 | 154 | |
| Wool Storage | | | .08 | 33 | |
| Predator Control | | | .67 | 271 | |
| Ram Death Loss | | | .59 | 239 | |
| Fuel and Lubricants | | | 1.78 | 721 | |
| Repairs | | | 1.87 | 758 | |
| Hired Labor | | | 5.21 | 2,109 | |
| Taxes | | | 4.11 | 1,664 | |
| Insurance | | | .65 | 261 | |
| General Farm Overhead | | | 1.19 | 482 | |
| Interest on Operating Capital | | | 1.30 | 528 | |
| Total Cash Costs | | | 34.36 | 13,915 | |

Source: USDA, ESCS, 1982.

APPENDIX 4 (concluded)

TABLE 5

Average Costs and Returns for Large Sheep Herd
(1,000 or More Ewes)

| Item | Unit | Number | Average Weight | Price Cwt | Total Value |
|-------------------------------|------|--------|----------------|-----------|--------------|
| Sales: | | | | | |
| Slaughter Lambs | Head | 1,621 | 93 | 66.30 | 99,949 |
| Feeder Lambs | Head | 835 | 82 | 73.96 | 50,640 |
| Ewes | Head | 278 | 145 | 26.86 | 10,827 |
| Wool | Lbs. | 2,831 | 10 | .88 | 24,913 |
| Wool Incentive Payment | Dol. | 24,913 | | .39 | 9,716 |
| Unshorn Lamb Payment | Cwt. | 2,193 | | 1.43 | 3,136 |
| Total | | | | | 199,181 |
| Total Per Cow | | | | | 71 |
| Cash Costs: | | | | | |
| | | | Value/Head | | Total Values |
| BLM Grazing Fee | | | 1.59 | | 4,430 |
| Forest Grazing Fee | | | 1.57 | | 4,360 |
| State Lease | | | .25 | | 708 |
| Irrigated Pasture | | | -- | | -- |
| Private Range Lease/Rent | | | 2.52 | | 7,014 |
| Hay (purchase) | | | 1.82 | | 5,061 |
| Hay (produce) | | | .51 | | 1,417 |
| Grain (purchase) | | | -- | | -- |
| Protein Supplement | | | 1.33 | | 3,694 |
| Other Feed | | | -- | | -- |
| Salt and Mineral | | | .28 | | 778 |
| Spray and Dipping | | | .02 | | 58 |
| Veterinary and Medicine | | | .36 | | 1,001 |
| Marketing | | | .10 | | 278 |
| Trucking | | | 2.44 | | 6,783 |
| Shearing and Tagging | | | 1.90 | | 5,282 |
| Utilities | | | .63 | | 1,751 |
| Lamb Promotion | | | .03 | | 83 |
| Organizations | | | .10 | | 278 |
| Legal and Accounting | | | .38 | | 1,057 |
| Wool Storage | | | .08 | | 222 |
| Predator Control | | | .67 | | 1,862 |
| Ram Death Loss | | | .59 | | 1,640 |
| Fuel and Lubricants | | | 1.78 | | 4,948 |
| Repairs | | | 1.72 | | 4,787 |
| Hired Labor | | | 3.47 | | 9,647 |
| Taxes | | | 2.81 | | 7,807 |
| Insurance | | | .65 | | 1,810 |
| General Farm Overhead | | | 1.19 | | 3,308 |
| Interest on Operating Capital | | | 1.37 | | 3,815 |
| Total Cash Costs | | | 30.17 | | 83,878 |

Source: USDA, ESCS, 1982.

APPENDIX 5

CULTURAL RESOURCES

MEMORANDUM OF UNDERSTANDING

ASHLEY CREEK GRAZING MANAGEMENT ENVIRONMENTAL IMPACT STATEMENT

BETWEEN

THE BUREAU OF LAND MANAGEMENT

AND

THE UTAH STATE HISTORIC PRESERVATION OFFICER

I. PURPOSE

The Bureau of Land Management hereinafter referred to as the Bureau, is preparing the Ashley Creek Grazing Management Environmental Impact Statement (Ashley Creek EIS) under the provisions of the National Environmental Policy Act of 1969. The Bureau has determined that cultural values could be damaged or lost as a result of actions proposed in the Ashley Creek EIS. The following kinds of actions are proposed on public lands administered by the Bureau:

- a. Vegetation Modification (e.g., chaining plowing clear cutting)

The Bureau has the responsibility to protect the cultural values on the lands administered by the Bureau. The Utah State Historic Preservation Office, hereinafter referred to as the State, is available to assist and advise those working with these federal regulations. In this MOU, "cultural resources" means data and sites which have archaeological, historical, architectural, or cultural importance and interest.

The Bureau requires the investigators to be qualified to evaluate these "cultural resources".

II. AUTHORITY

This MOU is authorized under the Federal Land Policy and Management Act of 1976 and the National Historic Preservation Act of 1966. It is in accord with Bureau policies and programs.

III. RESPONSIBILITIES AND PROCEDURES

The Bureau complies with 36 CFR 800 in identifying sites which are listed in or eligible for inclusion in the National Register of Historic Places.

A. As part of the planning and environmental analysis required prior to major grazing management decisions, the Bureau will search for archaeological and historical literature concerning the Ashley Creek area. Literature and records searches have been conducted for all public lands that would be affected by the Ashley Creek proposal.

B. After completing the planning and environmental analysis process, should the proposed management be implemented, the Bureau will inform project participants of, monitor compliance with, and enforce the following stipulations:

1. Prior to initiation of ground-disturbing activities, literature searches and intensive surveys will be undertaken on all areas which would be disturbed.
2. Wherever possible and feasible, cultural resources will be avoided by range improvement activities. This will be accomplished mainly by regulating vegetation modification activities.
3. A professional archaeologist may be required to be present when ground-disturbing operations are underway.
4. Subsurface cultural resources that are encountered during any vegetation modification will be salvaged if there is no other recourse in such a situation.

C. Wherever it is not possible and feasible to avoid sites that contain cultural values, the Bureau will require the most satisfactory means of mitigating damage, as required by 36 CFR 800.

D. The Bureau will provide cultural resource reports, technical reports, and other pertinent material to the State so that the State can maintain a central depository of reports which will insure that no duplication will be required by the Bureau in the future.

IV IMPLEMENTATION

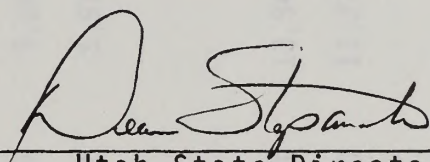
A. This MOU will become effective on the date of the last signature on this MOU.

B. Either party may request revision or cancellation of this MOU by written notice, not less than 30 days prior to the time when such action is proposed.

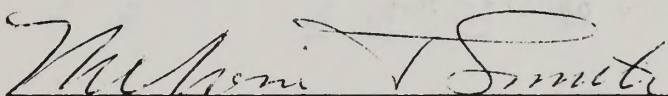
C. Any problems resulting from this MOU which cannot be resolved by the Bureau in consultation with the State will be referred to the Secretary of the Interior and the Advisory Council on Historic Preservation for resolution.

D. Nothing in this MOU should be construed as the State requiring compliance with federal regulations. The purpose of this MOU is to make the State aware of current federal procedures and regulations. These procedures will also allow copies of reports to be made available for central filing, so work is not unnecessarily duplicated.

2/5/82
Date


Utah State Director
Bureau of Land Management
Department of the Interior

2-5-82
Date


Utah State Historic Preservation Officer

APPENDIX 6
TABLE 1

Partial Ranch Budgets and Impact Analysis for Small Sheep Operator

| Item | No Change | Percent Increased | | | Percent Reduced | | | | |
|--|--------------|-------------------|--------|--------|-----------------|--------|--------|--------|--------|
| | | 10 | 20 | 30 | 10 | 20 | 30 | | |
| Dollars | | | | | | | | | |
| Gross Income | 29,045 | 29,610 | 30,068 | 30,546 | 27,591 | 26,151 | 24,647 | 23,207 | 21,768 |
| Total Cash Costs | 13,915 | 14,108 | 14,160 | 14,215 | 13,644 | 13,272 | 12,884 | 12,512 | 12,140 |
| Value of Family Labor | 703 | 718 | 730 | 741 | 669 | 635 | 598 | 563 | 528 |
| Depreciation | 3,278 | 3,284 | 3,288 | 3,293 | 3,264 | 3,250 | 3,235 | 3,221 | 3,207 |
| Interest on Investment Other Than Land | 6,102 | 6,177 | 6,238 | 6,301 | 5,910 | 5,719 | 5,520 | 5,329 | 5,139 |
| Return Above: | | | | | | | | | |
| Cash Costs | 15,130 | 15,502 | 15,908 | 16,331 | 13,947 | 12,879 | 11,763 | 10,695 | 9,628 |
| Cash Costs and Family Labor | 14,427 | 14,784 | 15,178 | 15,590 | 13,278 | 12,244 | 11,165 | 10,132 | 9,100 |
| Return to Total Investment | 11,149 | 11,500 | 11,890 | 12,297 | 10,014 | 8,994 | 7,930 | 6,911 | 5,893 |
| Return to Land | 5,047 | 5,323 | 5,652 | 5,996 | 4,104 | 3,275 | 2,410 | 1,582 | 754 |
| Head | | | | | | | | | |
| Herd Size | 405 | 413 | 419 | 426 | 385 | 365 | 344 | 324 | 304 |

APPENDIX 6 (continued)

TABLE 2

Partial Ranch Budgets and Impact Analysis for Large Sheep Operator

| Item | No Change | Percent Increased | | | Percent Reduced | | | | |
|--|--------------|-------------------|---------|---------|-----------------|---------|---------|---------|---------|
| | | 10 | 20 | 30 | 10 | 20 | 30 | | |
| <u>Dollars</u> | | | | | | | | | |
| Gross Income | 199,181 | 202,898 | 206,591 | 210,305 | 195,471 | 191,778 | 188,065 | 184,351 | 180,658 |
| Total Cash Costs | 83,878 | 84,804 | 85,013 | 85,224 | 84,383 | 84,173 | 83,963 | 83,752 | 83,543 |
| Value of Family Labor | 9,647 | 9,826 | 10,005 | 10,185 | 9,467 | 9,288 | 9,108 | 8,928 | 8,749 |
| Depreciation | 19,774 | 19,812 | 19,851 | 19,889 | 19,736 | 19,697 | 19,659 | 19,621 | 19,582 |
| Interest on Invest- ment Other Than Land | 40,101 | 40,593 | 41,082 | 41,574 | 39,609 | 39,119 | 38,627 | 38,135 | 37,646 |
| Return Above: | | | | | | | | | |
| Cash Costs | 115,303 | 118,094 | 121,578 | 125,081 | 111,088 | 107,605 | 104,102 | 100,599 | 97,115 |
| Cash Costs and Family Labor | 105,656 | 108,268 | 111,573 | 114,896 | 101,621 | 98,317 | 94,994 | 91,671 | 88,366 |
| Return to Total Investment | 85,882 | 88,456 | 91,722 | 95,007 | 81,885 | 78,620 | 75,335 | 72,050 | 68,784 |
| Return to Land | 45,781 | 47,863 | 50,640 | 53,433 | 42,276 | 39,501 | 36,708 | 33,915 | 31,138 |
| Herd Size | | | | | | | | | |
| | 2,780 | 2,832 | 2,883 | 2,935 | 2,728 | 2,676 | 2,624 | 2,572 | 2,521 |

APPENDIX 6 (continued)

TABLE 3

Partial Ranch Budgets and Impact Analysis for Small Cattle Operator

[illegible]

TABLE 4

Partial Ranch Budgets and Impact Analysis for Medium Cattle Operator

150

TABLE 5

Partial Ranch Budgets and Impact Analysis for Large Cattle Operator

| Item | No Change | Percent Increased | | | <u>Dollars</u> | | | | | Percent Reduced | | |
|--|--------------|-------------------|----------|---------|----------------|----------|----------|---------|---------|-----------------|--|--|
| | | 10 | 20 | 30 | 10 | 20 | 30 | 40 | 50 | | | |
| Gross Income | 223,239 | 223,473 | 223,708 | 223,942 | 222,998 | 222,757 | 222,517 | 222,276 | 222,035 | | | |
| Total Cash Costs | 132,454 | 131,647 | 130,839 | 130,032 | 133,549 | 134,645 | 135,740 | 136,836 | 137,931 | | | |
| Value of Family Labor | 10,460 | 10,089 | 9,719 | 9,348 | 10,209 | 9,958 | 9,706 | 9,455 | 9,204 | | | |
| Depreciation | 41,207 | 40,979 | 40,751 | 40,523 | 41,059 | 40,911 | 40,762 | 40,614 | 40,466 | | | |
| Interest on Invest- ment Other Than Land | 95,516 | 95,627 | 95,738 | 95,849 | 95,469 | 95,422 | 95,376 | 95,329 | 95,282 | | | |
| Return Above: | | | | | | | | | | | | |
| Cash Costs | 90,785 | 91,827 | 92,868 | 93,910 | 89,449 | 88,113 | 86,776 | 85,440 | 84,104 | | | |
| Cash Costs and Family Labor | 80,325 | 81,737 | 83,149 | 84,561 | 78,148 | 75,971 | 73,795 | 71,618 | 69,441 | | | |
| Return to Total Investment | 39,118 | 40,758 | 42,398 | 44,038 | 37,089 | 35,061 | 33,032 | 31,004 | 28,975 | | | |
| Return to Land | -233,176 | -172,721 | -112,266 | -51,811 | -198,710 | -164,245 | -129,779 | -95,314 | -60,848 | | | |
| Herd Size | 847 | 848 | 849 | 850 | 846 | 845 | 844 | 843 | 842 | | | |
| | | | | | | | | | | | | |

GLOSSARY

- ACTIVE PREFERENCE.** The total number of animal unit months of livestock grazing on public lands apportioned and attached to base property owned or controlled by a permittee or lessee.
- ACTIVITY RECOMMENDATION (MFP STEP 1).** A quantified statement, based upon an analysis of an activity objective, which clearly defines the specific course of action that will be taken to achieve all or part of the objectives. Both the support and resource activities prepare recommendations.
- ACTUAL USE.** The use made of forage on any area by livestock and/or big game without reference to permitted or recommended use.
- AERIE.** Nest of eagles or other raptors built on a cliff or other high place.
- ALLOTMENT.** An area of land where one or more operators graze their livestock. Generally consists of public lands but may include parcels of private or State lands. The numbers of livestock and seasons of use are stipulated for each allotment. An allotment may consist of one or several pastures.
- ALLOTMENT MANAGEMENT PLAN (AMP).** A written program of livestock grazing management, including supportive measures, if required, designed to attain specific management goals in a grazing allotment, which is prepared cooperatively with the permittee(s) or leasee(s).
- ALTERNATIVE.** One of at least two proposed means of accomplishing planning objectives.
- AMBIENT AIR QUALITY.** The quality of an air mass associated within a given environment.
- ANALYSIS.** The examination of existing and/or recommended management needs and their relationships to discover and display the outputs, benefits, effects, and consequences of initiating a proposed action.
- ANIMAL UNIT MONTH (AUM).** The amount of forage required to sustain the equivalent of 1 cow or 5 sheep for 1 month; 5.82 deer for 1 month; 1.88 elk for 1 month; 9.62 antelope for 1 month; and 5.62 bighorn sheep for 1 month (usually 800 pounds of usable air dried forage).
- APPARENT TREND.** An evaluation of the direction of change in range condition based on a one-time observation of the specific area as it relates to livestock and/or big game use.
- AQUATIC.** Living or growing in or on the water.
- AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC).** An area of public lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life/provide safety from natural hazards.
- AVERAGE USE.** The average actual use of forage (expressed in AUMs) by livestock and/or big game animals on an allotment during 3 representative years in the last 8 years.
- BASE PROPERTY.** Land that has the capability to produce crops or forage that can be used to support authorized livestock for a specified period of the year, or water that is suitable for consumption by livestock and is available and accessible to the authorized livestock when the public lands are used for livestock grazing.
- BASIC VISUAL ELEMENTS.** The elements which determine how the character of a landscape is perceived. *Form:* The shape of objects such as landforms or patterns in the landscape. *Line:* Perceivable linear changes in contrast resulting from abrupt differences in form, color, or texture. *Color:* The reflected light of different wave lengths that enables the eye to differentiate otherwise identical objects. *Texture:* The visual result of variation in the surface of an object.
- BROWSE.** As a noun, trees and shrubs used as food by cattle, sheep, deer, elk, and other animals. As a verb, to consume, feed, or eat browse plants.
- CAPITAL VALUE.** The value of a BLM permit as a part of ranch capital (e.g., land, machinery, stock, etc.). Changes in allocated AUMs can affect the overall capital value of ranch property. Any change in permitted use has the potential of affecting the livestock operator's ability to secure a loan and the overall capital value of his property.
- CHANGE AGENT.** Any factor (person, physical force, living entity, chemical, etc.) which causes an effect on the primary characteristics of an ecological element, either positively or negatively.
- CLASS OF LIVESTOCK.** Age and/or sex groups of a kind of livestock.
- CLIMAX COMMUNITY.** The final vegetation community which emerges after a series of successive vegetation stages and perpetuates itself indefinitely unless disturbed by outside forces.
- CHAINING.** The process of manipulating vegetation by pulling an anchor chain between two crawler tractors, thus reducing tall-growing, brittle vegetation and enhancing grasses and forbs.
- COLIFORM.** A general term for a group of bacteria found in the large intestine of man or animals. Its presence in water usually indicates fecal pollution.
- COMPETITIVE FORAGE.** Forage which deer, elk, or antelope use and which are used by livestock.
- CRUCIAL WILDLIFE HABITAT.** That portion of the living area of a wildlife species that is essential to the survival and perpetuation of the species either as individuals or as a population.
- CUBIC FEET PER SECOND (CFS).** A volume of water that covers an area of 1 acre to a depth of 1 foot (43,560 cubic feet).
- CULTURAL RESOURCES.** Those resources of historical, archaeological, or architectural significance.
- ECOLOGICAL CONDITION.** The present state of vegetation on an ecological site in relation to the climax (natural potential) plant community for that site.
- ENDANGERED SPECIES.** Any animal or plant species in danger of extinction throughout all or a significant portion of their range.
- ENVIRONMENT.** All that surrounds an organism and interacts with it.
- ENVIRONMENTAL ANALYSIS.** A systematic process for consideration of environmental factors in land management actions.
- ENVIRONMENTAL ASSESSMENT (EA).** A concise analysis of the probable environmental effects of proposed activities on Federal lands. The EA is used to determine if significant impacts are probable and preparation of an environmental impact statement (EIS) is necessary. If an EIS is not necessary, the EA identifies mitigation measures that would insure that any impacts from the proposed activities would not have significant adverse impacts on the environment.
- EXCHANGE OF USE.** An agreement made with an operator having ownership or control of private lands interspersed and grazed in conjunction with surrounding Federal range. This agreement specifies the grazing capacity and gives BLM control of the non-Federal land for grazing purposes.
- FORAGE.** Vegetation of all forms available and of a type used for animal consumption.
- FORB.** A broad-leaved herb other than grass.
- GRAZING CAPACITY.** The number of animal unit months of forage available for grazing on a sustained yield basis on the public lands as determined through range studies/surveys.
- GRAZING PERMIT.** A document authorizing use of the public lands within grazing districts under Section 3 of the Taylor Grazing Act, for the purpose of grazing livestock.
- HABITAT.** A specific set of physical conditions that surround the single species, a group of species, or a large community. In wildlife management, the major components of habitat are considered to be food, water, cover, and living space.
- HABITAT MANAGEMENT PLAN (HMP).** A plan for a geographic area of public lands which identifies wildlife habitat management actions to be implemented to achieve specific objectives identified in the MFP multiple-use decision documents.
- IMPACT ANALYSIS (MFP STEP 2).** An analysis of the effects (negative and positive) of an MFP Step 1 recommendation on other recommendations, social, economic, institutional, environmental, and other resource values. It is a portion of the Multiple Use Analysis process.
- INTERMITTENT STREAM.** A stream which carries water a considerable portion of time but which ceases to flow occasionally or seasonally because bed seepage and evapotranspiration exceed the available water supply.
- KEY PLANT SPECIES.** A plant that is a relatively or potentially abundant species. It should be able to endure moderately close grazing and serves as an indicator of changes occurring in the vegetational complex. The key plant species are an important vegetation component that, if overused, will have a significant effect on watershed conditions, grazing capacity, or other re-

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- source values. More than one key plant species may be selected on an allotment. For example, one species may be important for watershed protection, and a different species may be important for livestock or wildlife forage.
- LAND-USE PLAN.** A planning decision document which establishes resource allocations and coordinated objectives and constraints for all forms of public land and resource use within the area covered by the plan.
- LICENSED USE.** The number of AUMs purchased by a livestock operator from the BLM on an annual basis. In this EIS, 8 years of licensed use have been averaged. The averaged numbers are those referred to in the text, tables, and graphs and are considered to be the present average use.
- LITTER.** A surface layer of organic debris consisting of freshly fallen or slightly decomposed organic material. Litter is important because it covers and protects the soil, reduces runoff rates, increases infiltration, and yields organic matter which improves soil fertility.
- LIVESTOCK OR KIND OF LIVESTOCK.** The species of domestic livestock — cattle, sheep, horses, burros, and goats.
- LIVESTOCK OPERATORS.** A person or organization legally permitted to graze livestock on public lands.
- MANAGEMENT FRAMEWORK PLAN (MFP).** Land use plan for public lands administered by BLM which provides a set of goals, objectives, and constraints for a specific planning unit or area; a guide to the development of detailed plans for the management of each resource.
- MONITORING.** The collection of data by a systematic and periodic examination of rangeland resources on specific areas by qualified individuals. The techniques or methods are designed to evaluate progress in meeting land use or allotment management planning objectives.
- MULTIPLE USE.** The coordinated management of public lands and their resource values to best meet the present and future needs of American people. Relative values of the resources are considered and not necessarily the greatest potential economic return.
- MULTIPLE USE ANALYSIS (STEP 2 OF MFP).** Includes impact analysis, determination of alternatives, and preparation of Multiple Use Recommendations.
- MULTIPLE USE RECOMMENDATIONS.** Program activity recommendations which have been modified by impact analysis or adjustments to resolve minor conflicts, or alternatives to the program activity recommendations developed to resolve conflicts, as a portion of MFP Step 2.
- OBJECTIVES (MFP STEP 1).** Management goals or quantified statements of desired end products (based on Planning Area Analysis projections of social, economic, and environmental values) which provide targets for program accomplishment.
- OCULAR RECONNAISSANCE SURVEY.** A forage survey method which inventories vegetation by estimating total forage density, percent composition by species, and total usable forage in a given range type to determine the grazing capacity for livestock and big game.
- OFF-ROAD VEHICLE (ORV).** Any motorized vehicle designed for or capable of cross-country travel or immediately over land, water, sand, snow, ice, marsh, swampland, or other terrain.
- OVERSTOCKED.** A condition wherein the number of animals (herbivores) in an area are in excess of its ability to sustain production of sufficient consumable vegetation.
- PASTURE.** A subdivision of a grazing allotment.
- PELLET GROUPS.** A group of fecal material defecated by an animal (particularly big game) at one time.
- PERENNIAL PLANT.** A plant that has a life cycle of 3 or more years. Because of their longevity, it is desirable to base management on these species.
- PERMEABILITY (SOIL).** The ease with which gasses, liquids, or plant roots penetrate or pass through a layer of soil.
- PERMIT.** An authorization which allows grazing on public lands. Permits specify class of livestock on a designated area during specified seasons each year. Permits are of two types: preference (10 year) and temporary non-renewable (1 year).
- PERMIT VALUE.** BLM-allocated AUMs may be transferred from one operator to another. The dollar value given by one operator (buyer) to induce a present permit holder (seller) to transfer his permit is known as the "permit value" of an AUM. This "permit value" may have a significant bearing on the rancher's capital value.
- PLANNING AREA.** One or more planning units for which Management Framework Plans are prepared/revised.
- PLANNING AREA ANALYSIS (PAA).** The summary of data on social and economic conditions for a planning unit or area.
- PLANNING UNIT.** A geographic unit within a BLM district which includes related lands, resources, and use pressure problems which are considered together for resource inventory and planning.
- PLANT COMPOSITION.** The mixture of plants found in a vegetation type or study area usually expressed in percents as related to all the other plants.
- PLANT VIGOR.** The relative well being and health of a plant as reflected by its ability to manufacture sufficient food for growth and maintenance.
- PRIMITIVE RECREATION VALUES.** Environmental features that enhance the quality of unconfined, undeveloped, and unmotorized recreation (i.e., hiking, backpacking, cross-country skiing, etc.). A general description would be scenic, undeveloped lands essentially removed from the effects of civilization with excellent opportunities for solitude.
- PRIOR STABLE LEVEL.** A number derived from deer population dynamics data from the average of 10 or more years when deer populations were stable and at or near the grazing capacity of the range of a given deer herd unit.
- PUBLIC LANDS.** Any lands and interest in land outside of Alaska owned by the United States and administered by the Secretary of the Interior through the Bureau of Land Management, except lands located on the Outer Continental Shelf and lands held for the benefit of Indians.
- PUBLIC PARTICIPATION.** The process of attaining citizen input into each stage of development of the URA and MFP. It is required as a major input into the Bureau's Planning System.
- RANGE DEVELOPMENTS.** Special treatments, developments, and/or structures used to rehabilitate, protect, or improve range forage resources or to facilitate their use by grazing animals.
- RANGE IMPROVEMENT.** Any activity or program on or relating to rangelands which is designed to improve production of forage, change vegetation composition, control patterns of use, provide water, stabilize soil and water conditions, and provide habitat for livestock and wildlife. The term includes, but is not limited to, structures, treatment projects, and use of mechanical means to accomplish the desired results.
- RANGELAND.** Land on which the native vegetation is predominantly grasses, grass-like plants, forbs, or shrubs usually suitable for grazing or browsing use.
- RANGE STUDIES/SURVEY.** Vegetation inventory sampling to estimate the weight of plant materials.
- RAPTORS.** Birds of prey such as the eagle, hawk, owl, or vulture.
- REDUCTION.** Placing a portion of a grazing preference in suspended status because the currently authorized use exceeds the available grazing capacity. Also, to allow grazing use at less than active preference for a short period.
- REGION.** May be any geographic area larger than a planning area (Social-Economic Profile Area, sub-State, State, multi-State, or National), which is appropriate for comparative area analysis and for which information is available. Regions may be different for different resources or subject matter analysis.
- RESOURCE AREA.** A manageable geographic subdivision of a district consisting of one or more planning areas.
- RESOURCES.** All of the products and physical values produced or contained within public lands. They include the values which are known as natural resources, such as timber, coal, oil, etc.
- RIPARIAN HABITAT.** Plants that are adapted to moist growing conditions found along waterways, ponds and generally moist environments.
- RIPARIAN VEGETATION.** Habitat in which the vegetation is influenced by the water of streams, reservoirs, ponds, etc. (perma-

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- nent or intermittent). It is usually unique or limited in arid regions and is, therefore, of great importance to a wide variety of wildlife.
- SEASON OF USE.** The times of the year that domestic livestock are allowed to graze on an allotment.
- SEDIMENT YIELD.** Amount of mineral or organic soil material that is in suspension, is being transported, or has been moved from its site of origin.
- SENSITIVE SPECIES.** Species not yet officially listed but which are undergoing status review for listing; species whose populations are small and widely dispersed or restricted to a few localities; and species whose numbers are declining so rapidly that official listing may be necessary.
- SHRUB.** A plant that has a persistent, woody stem, a relatively low growth habit, and generally produces several basal shoots instead of a single trunk.
- SOCIAL-ECONOMIC PROFILE (SEP).** An information document for use in planning decision-making. It describes the human populations in terms of social and economic factors, and analyzes and records the economic, social, public coordination, and historical data relating to a region designated as a Social-Economic Profile Area.
- SOIL ASSOCIATION.** A group of defined and named soil units occurring together in individual and characteristic patterns over a geographic region.
- SOIL CLASSIFICATION.** The systematic arrangement of soils into classes in one or more categories or levels of classification for a specific objective. Broad groupings are made on the basis of general characteristics and subdivisions on the basis of more detailed differences in specific properties.
- SOIL SURFACE FACTOR.** A numerical expression of surface erosion activity caused by wind and water as reflected by soil movement, surface litter, erosion pavement, pedestalling, rills, flow patterns, and gullies. Values may vary from 0 for no erosion to 100 for severe erosion conditions.
- STATE LANDS.** Land controlled or administered by one of the individual United States.
- STOCKING.** The degree to which an allotment is stocked with livestock and big game, usually expressed in AUMs. Stocking may be more or less than the grazing capacity.
- SUSPENDED PREFERENCE.** That portion of the recognized grazing preference which is placed in a suspended category because the preference exceeds the present available livestock grazing capacity.
- THREATENED SPECIES.** Any animal or plant species likely to become endangered within the foreseeable future throughout all or a significant portion of their range.
- TREND IN RANGE CONDITION.** An interpretation of the direction of change in range condition based on multiple observations.
- UNALLOTTED LANDS.** Those lands not allocated to a specific use.
- UNIT RESOURCE ANALYSIS (URA).** A compilation of physical resource data and an analysis of the current use, production, condition, and trend of the resource and the potentials and opportunities within a planning unit or area, including a profile of ecological values.
- VEGETATION.** All living plant matter.
- VEGETATION MANIPULATION.** Changing the characteristics of an established vegetation type for the purpose of improving range forage resources. They are designed for specific areas and differ according to the area's suitability and potential. The most common vegetation manipulations in the planning area are chaining, spraying with herbicides, burning, and plowing followed by seeding with well adapted desirable plant species.
- VEGETATION UTILIZATION.** The proportion of the current year's forage production that is consumed or destroyed by grazing animals. This may refer either to a single species or to the whole vegetation complex. Utilization is expressed as a percent by weight, height, or numbers within reach of the grazing animal.
- VISUAL RESOURCE MANAGEMENT (VRM) SYSTEM.** Classification containing specific objectives for maintaining or enhancing visual resources, including the kinds of structures and modifications acceptable to meet established visual goals.
- WETLANDS.** Lands including swamps, marshes, bogs, and similar areas such as wet meadows, river overflows, mud flats, and natural ponds.

LIST OF ABBREVIATIONS

- ACEC: Area of Critical Environmental Concern
AMP: Allotment Management Plan
AUM: animal unit month
BEA: Bureau of Economic Analysis
BLM: Bureau of Land Management
CFR: Code of Federal Regulations
EA: Environmental Assessment
EIS: environmental impact statement
EPA: Environmental Protection Agency
F: Fahrenheit
FLPMA: Federal Land Policy and Management Act
FWS: Fish and Wildlife Service
gal/yr: gallons per year
HCRS: Heritage and Conservation Recreation Service
HMP: Habitat Management Plan
lbs.: pounds
MFP: Management Framework Plan
NEPA: National Environmental Policy Act
NRDC: Natural Resources Defense Council
ORV: off-road vehicle
PAA: Planning Area Analysis
P.L.: Public Law
RPS: Rangeland Program Summary
SCS: Soil Conservation Service
SSF: soil surface factor
SVIM: Soil-Vegetation Inventory Method
UDWR: Utah Division of Wildlife Resources
URA: Unit Resource Analysis
USDA: United States Department of Agriculture
USDC: United States Department of Commerce
USDI: United States Department of Interior
USFS: United States Forest Service
USGS: United States Geological Survey
VRM: visual resource management

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